

# Quick Reference Guide: Polysmith 11

## Polysmith (One Bed Recording System – DMS)

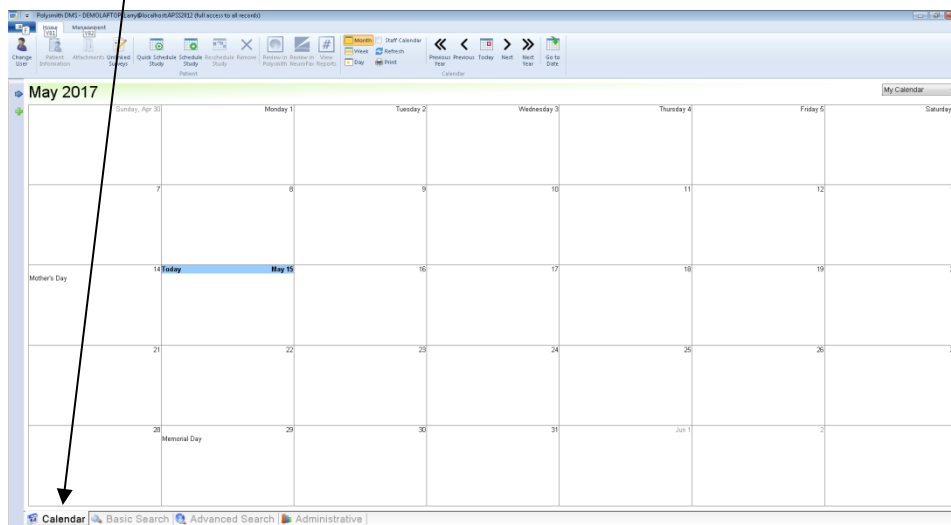
### Starting a recording:



- 1) Double left click on the Polysmith DMS Icon on the Desktop.
- 2) A “Polysmith DMS Login” window will appear. If you are using SQL Server Authentication -Verify that the “Server Instance” is correct and enter your user name and password in the appropriate field and left click on “OK.” If you are using Windows Authentication, you will not have to enter your user name and password.

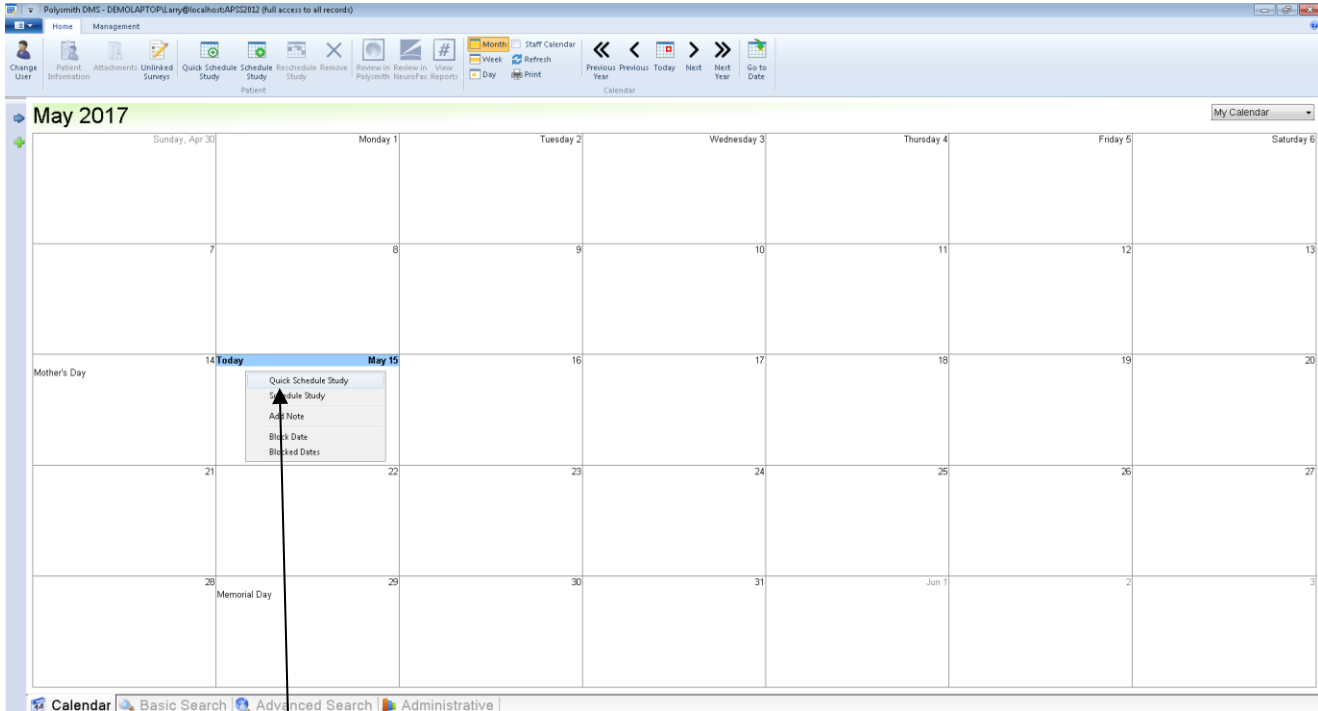
A screenshot of the Polysmith DMS Login dialog box. It has a title bar 'Polysmith DMS Login' and a close button. The fields include: 'Server Instance' with 'localhost' entered; 'Authentication Type' with 'Windows (WORKGROUP)' selected; 'User Name' with 'DEMOLAPTOP\Larry' entered; 'Password' (empty); 'Remember password' (unchecked); and 'Database' with 'AP552012' entered and a 'Browse' button. At the bottom are 'Help', 'OK', and 'Cancel' buttons.

- 3) The Polysmith DMS calendar will appear. (Note: Polysmith DMS will open in the tab that it was last closed by a previous user. Left-click on the “Calendar” tab to see the calendar if it opens in one of the “Search” tabs.)

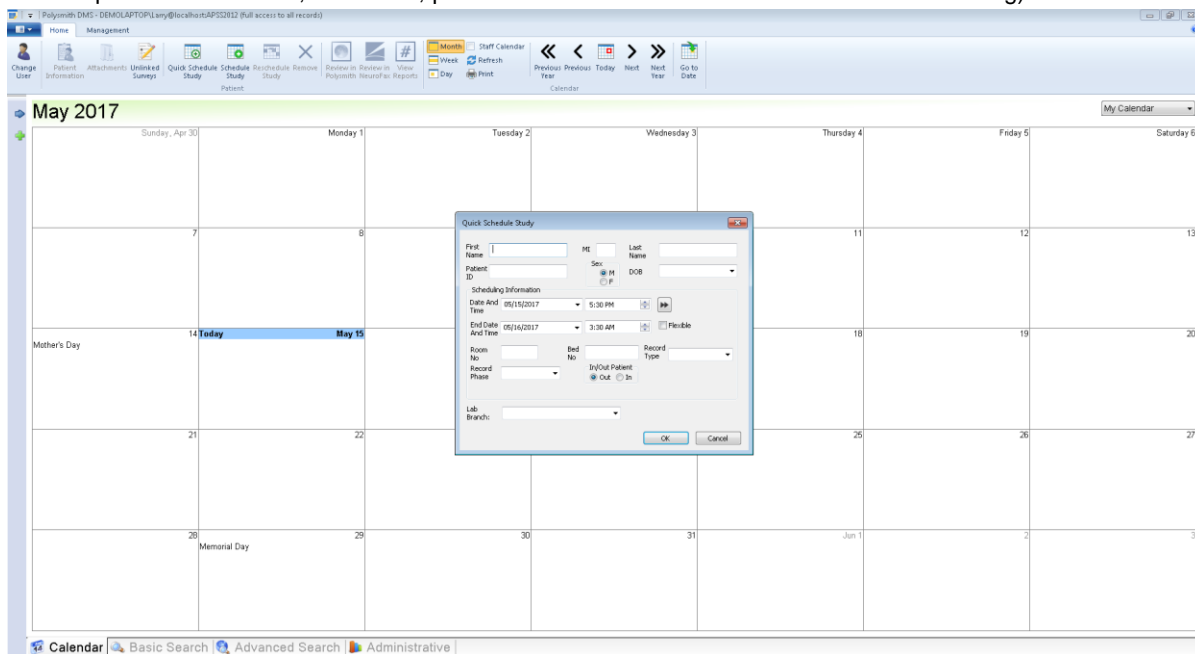


# Quick Reference Guide: Polysmith 11

Today's date will be highlighted in blue and indicate "Today." Right click on a blank area within the date box (on the date you wish to schedule the patient) and an options window will appear. (Note: If the patient's name is already on the calendar, right click on the patient's name and proceed to step 5, e.g. MSLT naps.)



- 4) Left click on "Quick Schedule Study" or "Schedule Study." Fill in the patient's information and left click on OK. (Note: You must fill in the patient's first name, last name, patient ID and date of birth in order to start a recording)



# Quick Reference Guide:

## Polysmith 11

### Entering Patient Information (Quick Add Patient Option):

The “Quick Add Patient” option allows you to enter a limited amount of patient information and add the patient to the calendar. (Note: A minimum of the “First Name”, “Last Name”, and “Patient ID” fields must be completed in order to add the patient to the calendar.) The “Quick Add Patient” option is useful for entering a patient into the calendar when pressed for time or when you have limited information about the patient. You can access and add information to the patient’s record before, during and after the study.

Quick Schedule Study

First Name  MI  Last Name

Patient ID  Sex  M  F DOB

Scheduling Information

Date And Time  5:30 PM

End Date And Time  3:30 AM  Flexible

Room No  Bed No  Record Type

Record Phase  In/Out Patient  Out  In

Lab Branch:

OK Cancel

### Entering Patient Information (Add Patient Option):

More complete Patient Information can be entered prior to, during, or after the study is recorded. To enter during the study or after the study is completed; left click on “Edit” then “Patient Information” in the Polysmith program. You can also access the Patient Information dialogue box after the study is completed by right-clicking on the patient’s name on the Calendar and left-clicking “View Patient Information.”

Patient Information Dialogue Box (Note: **Completion of the “First Name, Last Name, and Patient ID” fields is required to start a study and to advance to the next tab in Patient Information.**)

Completion of several other fields in the Patient Information dialogue is necessary for proper report completion; default reports use information from Patient Information to populate fields in the report (ex: First Name, Last Name, Patient ID, Date of Birth, Weight, Height, Sex, Comment, Medications, Medical History, Sleep Disorder, Primary Doctor, and Operator.) This information can be added to patient information during the study or after it is recorded. There are numerous fields available in the Patient Information dialogue box. Your facility may choose to complete only specific fields. Check with your supervisor for specific instructions on which fields are required by your facility.

# Quick Reference Guide:

## Polysmith 11

**Patient Tab:** The Patient tab allows the user to enter demographic information for the patient including name, date-of-birth, weight, height, and contact information. The first name, last name, and patient ID are required fields.

The screenshot shows a software window titled "Patient Information" with a close button (X) in the top right corner. The window contains several tabs: "Patient", "Photo", "Medical", "History", "Administrative", and "Staff and Billing". The "Patient" tab is active. The form fields are organized as follows:

- Patient Section:**
  - First Name: [Text Field]
  - MI: [Text Field]
  - Last Name: [Text Field]
  - Patient ID: [Text Field]
  - Date of Birth: [Dropdown Menu] (format: mm/dd/yyyy)
  - Sex:  Male  Female
  - Weight: [Text Field]  kg  lb
  - Height: [Text Field]  cm  in
  - BMI: [Text Field] kg/m<sup>2</sup>
  - Handedness:  Right  Left
- Address Section:**
  - Street: [Text Field]
  - City: [Text Field]
  - Home: [Text Field] [Text Field] Office: [Text Field]
  - Pager: [Text Field] FAX: [Text Field] Emergency: [Text Field]
  - Email: [Text Field]
- Lab Section:**
  - Lab Branch: [Dropdown Menu]

At the bottom of the window are three buttons: "OK", "Cancel", and "Help".

A callout box with a white background and black border is positioned over the form. It contains the following text: "Note: The First Name, Last Name, and Patient ID fields must be completed prior to advancing to another tab. You cannot open additional tabs until they are complete." Three black arrows point from the callout box to the First Name, Last Name, and Patient ID input fields.

# Quick Reference Guide: Polysmith 11

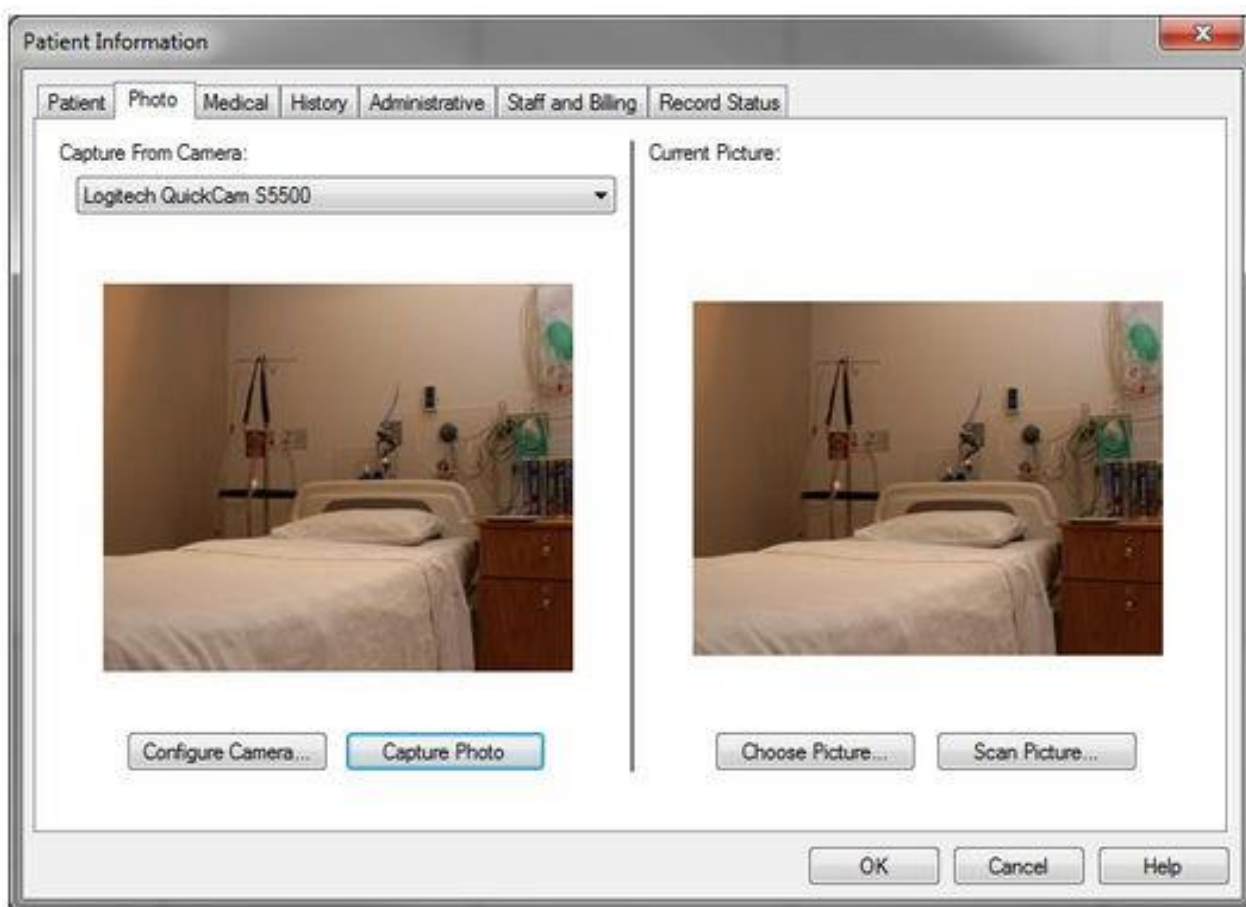
**Photo Tab:** The photo tab allows the user to capture, scan, or load an image of the patient in PolysmithDMS, or Polysmith, before, during, or after a study.

The photo tab displays a preview of the currently selected video capture device on the left, and displays the current patient photo on the right.

Clicking **Capture Photo** will save the image from the video capture device.

Clicking **Choose Picture...** allows the user to choose an existing JPEG image.

Clicking **Scan Picture...** allows the user to scan a photo from a TWAIN-compliant scanner.



# Quick Reference Guide: Polysmith 11

**Medical Tab:** Select disorders from the drop-down list and click **Add**. The ICSD code list will populate automatically with the proper code. This page also contains fields for sleep surveys, respiratory information and neck size. Select **Infant Scoring** under “Scoring Type” to enable infant sleep staging.

The screenshot shows a software window titled "Patient Information" with a close button (X) in the top right corner. The window has several tabs: "Patient", "Photo", "Medical" (which is selected), "History", "Administrative", and "Staff and Billing".

Under the "Medical" tab, there is a section for "Disorders" with a dropdown menu and an "Add" button. Below this is a table with two columns: "ICSD" and "ICSD Title". A "Delete Selection" button is located at the bottom right of the table.

At the bottom of the window, there are several input fields and a dropdown menu:

- ESS: 0
- O2 Delivery Range: [ ]
- Snoring: 0 dB
- BAI: 0
- Respiratory Rate: [ ]
- Scoring Type: Adult (dropdown)
- BDI: 0
- Neck Size: 0 [ ]  cm  In

At the bottom right of the window, there are three buttons: "OK", "Cancel", and "Help".

# Quick Reference Guide: Polysmith 11

**History Tab:** The History tab allows you to insert certain clinical information and generic information about the patient from a drop down list. The most common clinical text fields are found on the left side. Click on the **View Full List** buttons to view or edit the entire clinical fields

Patient Information

Patient Photo Medical **History** Administrative Staff and Billing

Comment

Medications

Medical History

Sleep Disorder

EKG Analysis

Other Fields

Generic Fields

View Full List

View Full List

OK Cancel Help

Clinical Information

Parameter	Value
Comment	
Medication	
Medical History	
Sleep Disorder	
EKG Analysis	
Interpretation	
Analysis Data	
Recommendations	
Follow up Plans	
Snoring Analysis	
Leg Movement Analy...	
Patient Opinion	
Test Description	
Clinical Indication	
Patient Condition	
Seizure Type	

Save Cancel

Generic Information

Parameter	Value
Type of CPAP mask used (Example Generic Field)	ResMed Mirage Nasal Mask (Std)
Chinstrap Y or N (Example Generic Field)	N
Generic3	
Generic4	
Generic5	
Generic6	
Generic7	
Generic8	
Generic9	
Generic10	

Save Cancel

# Quick Reference Guide: Polysmith 11

**Administrative Tab:** Use the Administrative tab to enter study-related information including scheduling information and study type. Use the controls on the bottom left to set permissions for the study.

The screenshot shows a software window titled "Patient Information" with a close button in the top right corner. The window has several tabs: "Patient", "Photo", "Medical", "History", "Administrative" (which is selected), and "Staff and Billing".

The "Administrative" tab contains the following sections:

- Schedule:** Includes fields for Record Type (dropdown), Room No. (text), Scheduling Date (05/15/2017, dropdown), Bed No. (text), Scheduling Time (6:00 PM, spinner), EEG No. (text), Scheduling End Date (05/16/2017, dropdown), Scheduling End Time (4:00 AM, spinner), and a "Flexible" checkbox.
- In/Out-Patient:** Radio buttons for "In" and "Out", with "Out" selected.
- HL7 Interface:** Fields for Order #, Procedure Code, and Encounter #.
- Recording:** A "Recording Phase" dropdown menu.
- User Access:** A checkbox "Can be accessed by all users" (unchecked) and a checked checkbox "Limit Access to the selected users: (Click on the User name to select)". Below this is a list of users: AnnaRamag, CalliHarmo, CheryMoody, DEMOLAPTOP\Larry (highlighted), GregoBush, JanetSolom, JFK, JohnMorro, MinniNagle, and PSG.

At the bottom right of the window are three buttons: "OK", "Cancel", and "Help".



# Quick Reference Guide: Polysmith 11

**Staff and Billing Tab:** Use the Staff and Billing tab to select staff members associated with the patient and to enter insurance information.

The screenshot shows a software dialog box titled "Patient Information" with a close button (X) in the top right corner. The "Staff and Billing" tab is selected, showing two sections: "Personnel" and "Care and Billing Info".

**Personnel Section:**

Primary Doc	<input type="text"/>	Operator	<input type="text"/>
Referring Doc	<input type="text"/>	Refer.Dept	<input type="text"/>
Reading Doc	<input type="text"/>	Copy To	<input type="text"/>
Ordering Doc	<input type="text"/>		

**Care and Billing Info Section:**

Home Care Provider	<input type="text"/>
Insurance Provider	<input type="text"/>
Billing Code	<input type="text"/>

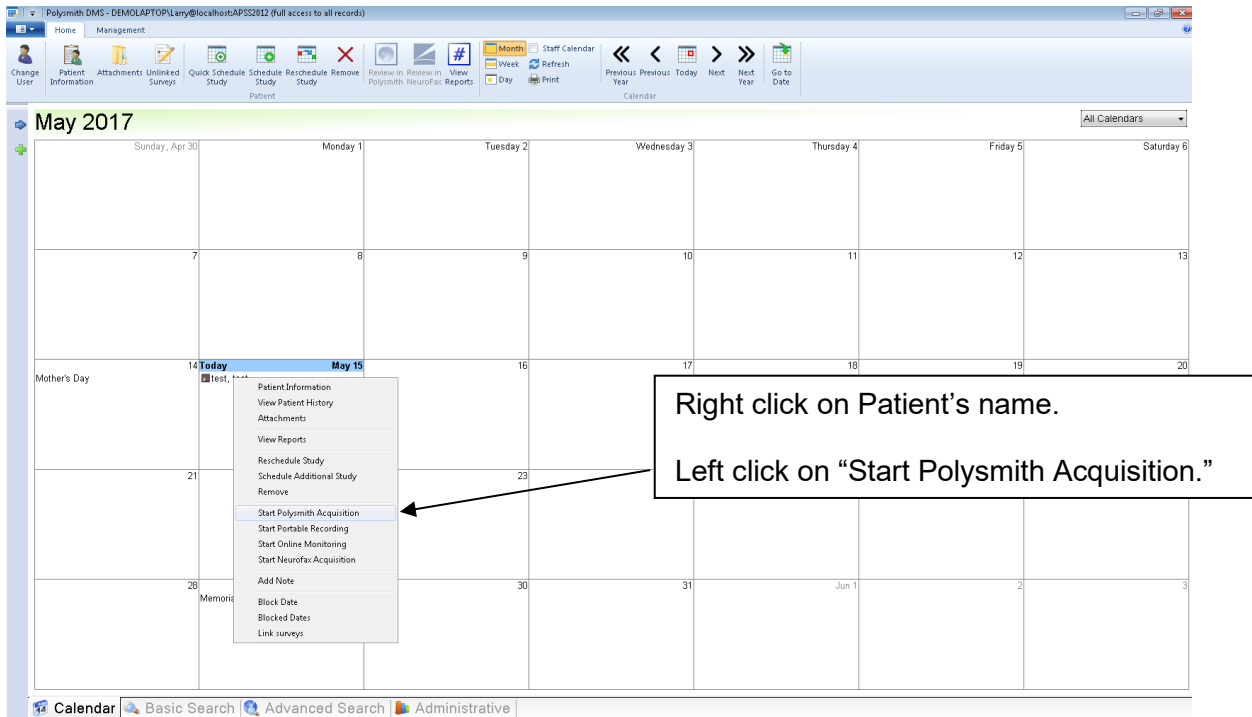
At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

Left click OK when done entering patient information. This will save the information you have typed and close the Patient Information dialogue box.

# Quick Reference Guide: Polysmith 11

## Starting and Recording a PSG, CPAP, or Split-Night Study:

- 5) The Patient's information will appear on today's date with patient's last name, first name, room#, bed#, and study type. Right click on the patient's name on today's date and an options window will appear. Left-click on "Start Polysmith Acquisition" to start a study.



After you left-click "Start Polysmith Acquisition", the "New Record" dialogue box will appear:

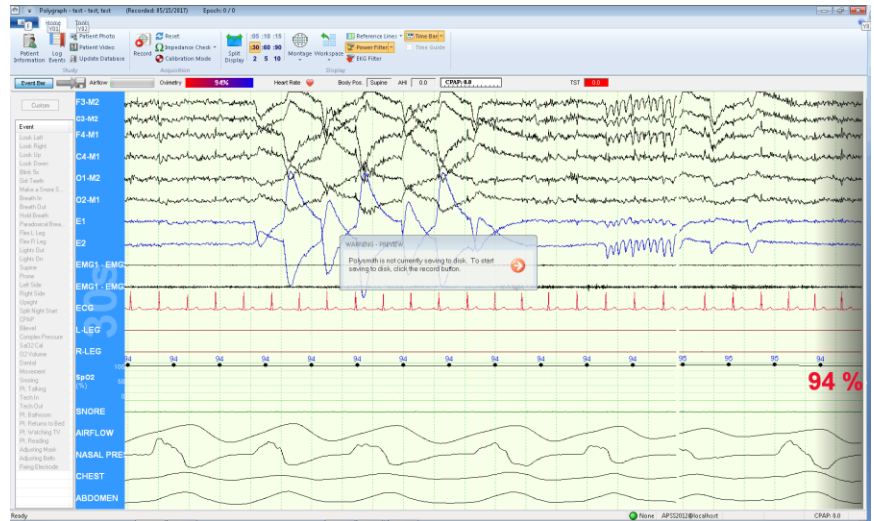
In the "New Record" window, do the following:

1. Verify Patient Name/I.D./Date of Birth.
2. Left click on the "More" button to enter patient information. (See "Entering Patient Information" section in this guide for details.)
3. Select starting montage from the drop-down box.
4. Select file recording size compression.
5. Verify that amount of disk space/hours remaining are adequate for recording a study.
6. Left click "Start MSLT" or "Start PSG."

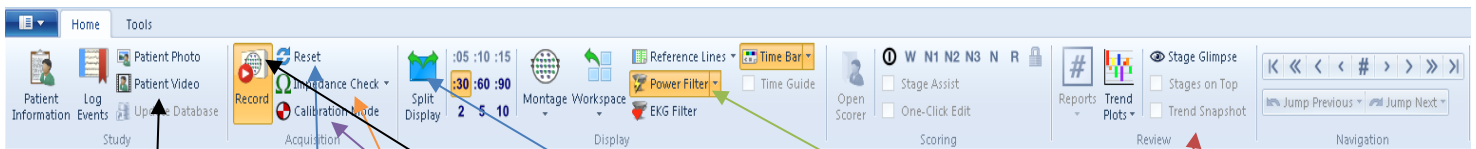
(Note: Data Storage Directory path normally reads "D:\Data Files\." The Data Storage directory is where the sleep recording is saved. It is important to verify the location prior to clicking on "Start PSG.")

# Quick Reference Guide: Polysmith 11

To begin recording a PSG, CPAP, Split-Night study, left click on “Start PSG.”



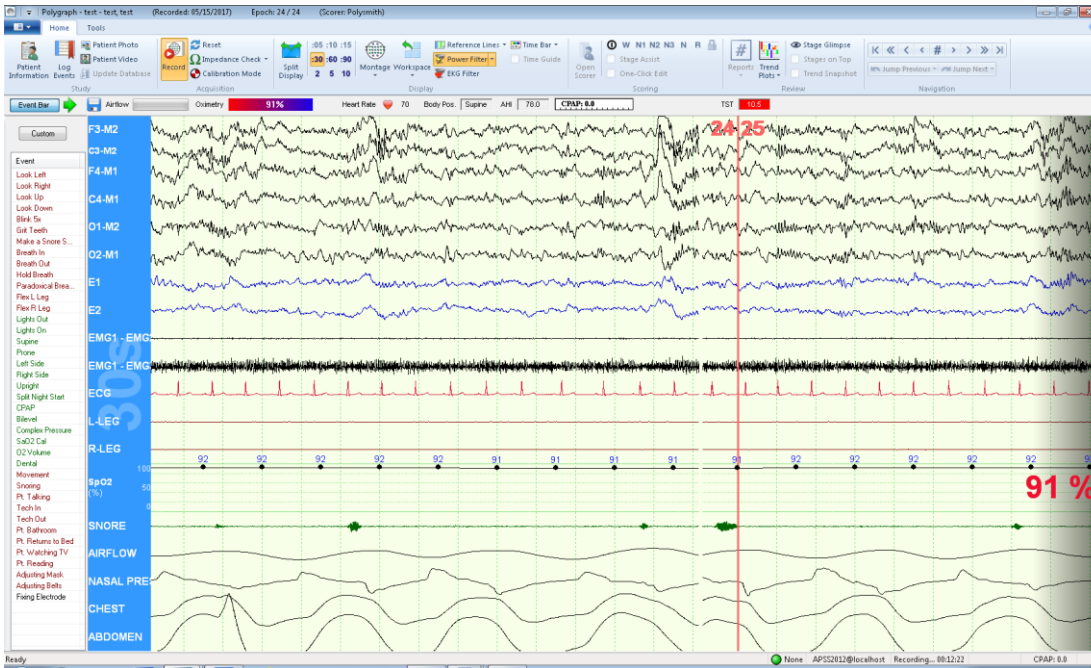
Recording Window will appear. Notice that the waveforms start scrolling across the screen. While the waveforms are scrolling across the screen, note that you are not recording. The “Warning – Preview” dialog box indicates that “Polysmith is not currently saving to disk. To start saving to disk, click the record button.” To start saving to disk, click the “Record” button . Encircled is called the “Home” ribbon bar. See below for the different functions.





Patient Video	Reset	Impedance Check	Calibration	Start/Stop Record	Toggle Split Display	Toggle Trend Snapshot	Notch Filter
Opens video window	Disconnect amplifier and records flat lines	Disconnects amplifier and displays impedance	Records calibration waveforms	Starts recording	Opens look back window	Opens trend bar	Turns on 60 Hz notch filter

# Quick Reference Guide: Polysmith 11

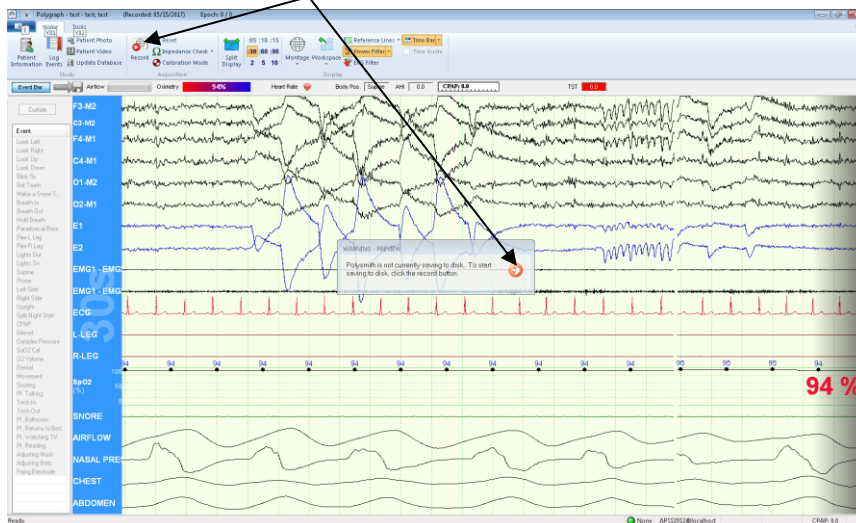
6) Left Click on “Show Video” button  . A camera window will appear.



7) Depending on your lab procedure, you may wish to take the patient’s photo by clicking on the “Snapshot” button  on the main toolbar of the camera window. You may also start collecting digital

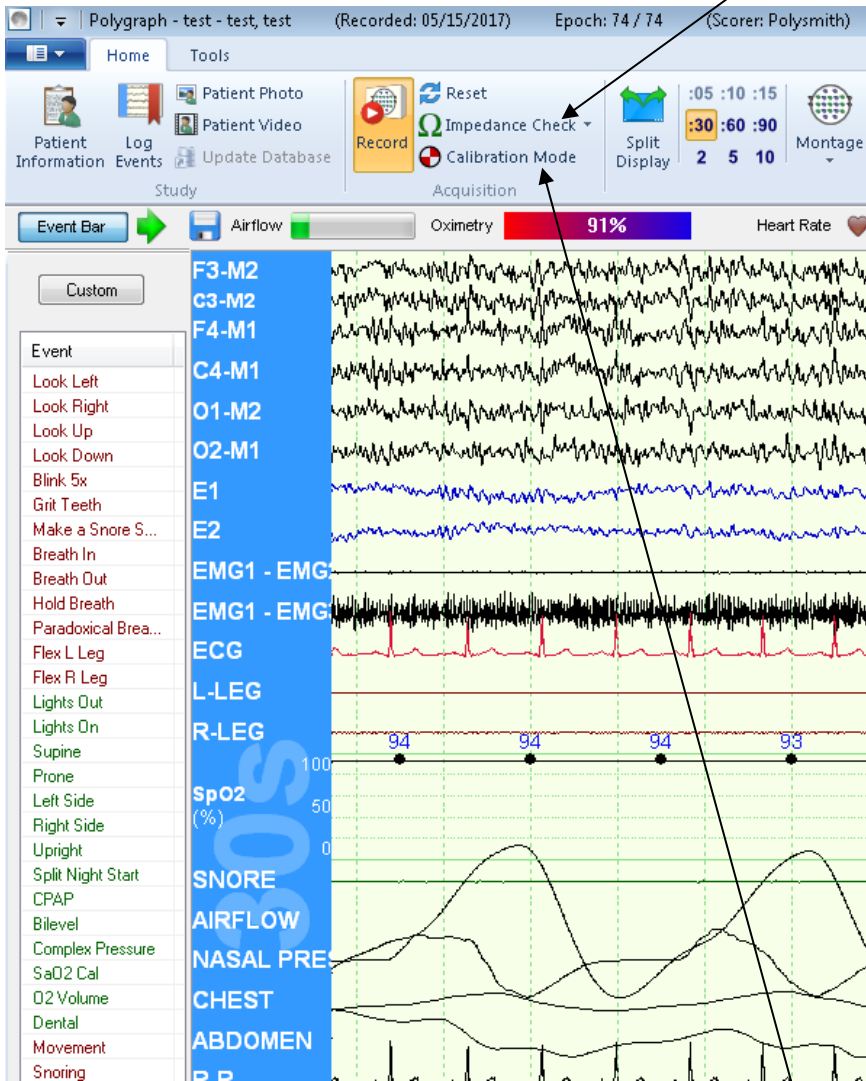
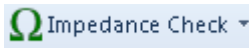
video by click on the “Start Recording” button  on the main toolbar of the camera window. (Note: In the camera window, “Not Recording” will change into “Recording.”)

8) To start the sleep recording left click on the “Record”  button on the Home Ribbon Bar or the record button in from the “WARNING – PREVIEW” dialogue box .



# Quick Reference Guide: Polysmith 11

9) To check Impedance, left click on this button

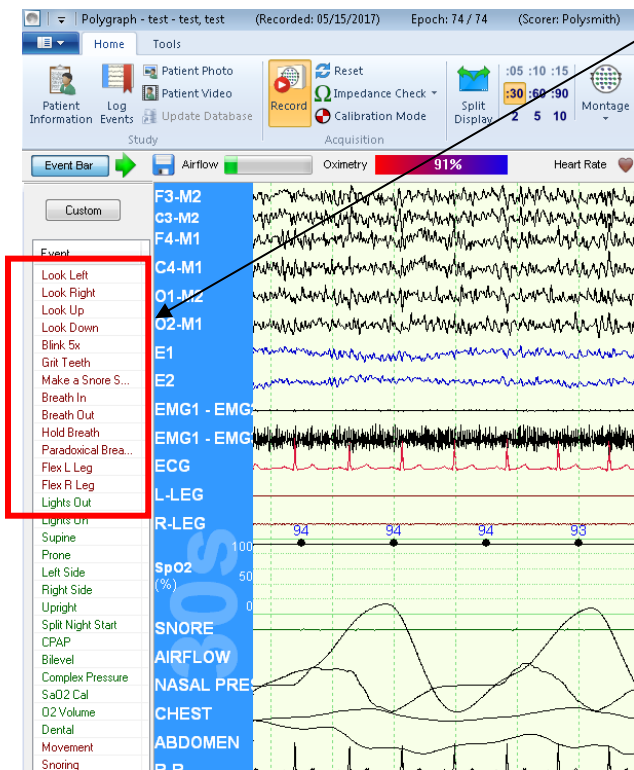


10) To do calibrations, left click on the "Calibration Mode" button

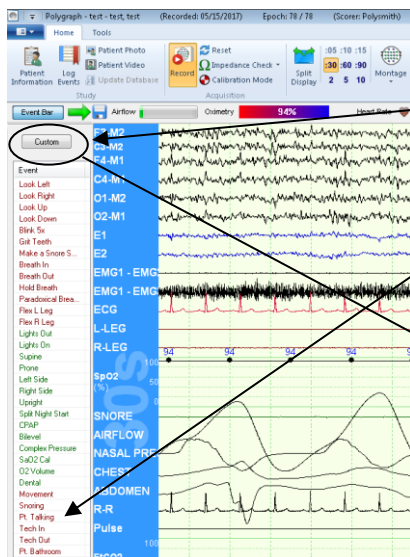


# Quick Reference Guide: Polysmith 11

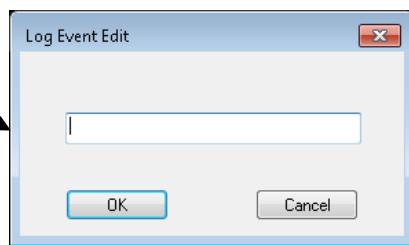
11) To do patient calibrations, left click on the individual comments in the Event Bar:



12) After the check impedance, calibration, and patient calibrations, left click the “Lights Out” comment and left click the appropriate body position in the Event Bar. (Note: System comments are in green print.)



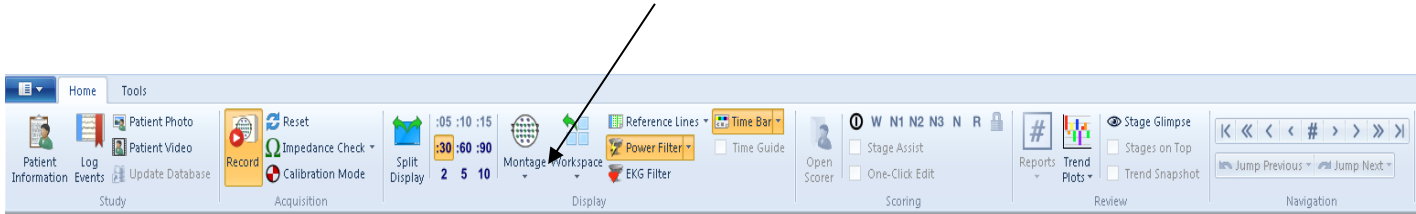
Note: To add a comment (tech note) to the live recording, either left click on a predefined comment in the Event Bar or click “Custom” and type your comment in the Log Event Edit box.



# Quick Reference Guide: Polysmith 11

## Opening Montage window:

To open the Montage window, left-click on “Montage” on the Home Ribbon Bar to open the Polysmith Montage Setup window.



You can make adjustments to the current montage or create and save new ones. If you wish to save the altered montage as a new montage or replace a default montage, left-click “Save As” and name it or save as an existing montage to overwrite it. If you want to alter the montage for a single study, you do not need to click “Save As.” Simply left-click on “OK” to save the changes for the individual study. **Note: Only choose “Save As” if you want to use the altered montage as a default montage.**

Polysmith Montage Setup

Pos	Label	G1	G2	Scan	TC	HF	Y	Sens	Size	Color	View	
1	F3-M2	F3	A2	FRONTAL	0.5310 (0.30 Hz)	35	☉	7	M	█	BOTTOM	⌂
2	C3-M2	C3	A2	CENTRAL	0.5310 (0.30 Hz)	35	☉	7	S	█	BOTTOM	⌂
3	F4-M1	F4	A1	None	0.5310 (0.30 Hz)	35	☉	7	M	█	BOTTOM	⌂
4	C4-M1	C4	A1	None	0.5310 (0.30 Hz)	35	☉	7	M	█	BOTTOM	⌂
5	O1-M2	O1	A2	OCCIPITAL	0.5310 (0.30 Hz)	35	☉	7	M	█	BOTTOM	⌂
6	O2-M1	O2	A1	None	0.5310 (0.30 Hz)	35	☉	7	M	█	BOTTOM	⌂
7	E1	PG1	A2	EOG1	0.5310 (0.30 Hz)	35	☉	10	M	█	BOTTOM	⌂
8	E2	PG2	A2	EOG2	0.5310 (0.30 Hz)	35	☉	10	M	█	BOTTOM	⌂
9	EMG1 - ...	FZ	CZ	CHIN	0.0159 (10.0 Hz)	100	☉	50	M	█	BOTTOM	⌂
10	EMG1 - ...	CZ	PZ	None	0.0159 (10.0 Hz)	100	☉	10	M	█	BOTTOM	⌂
11	ECG	T2	T1	EKG1	0.5310 (0.30 Hz)	70	☉	50	M	█	BOTTOM	⌂
12	L-LEG	Gnd	X1	LEG1	0.0159 (10.0 Hz)	100	☉	80	M	█	BOTTOM	⌂
13	R-LEG	Gnd	X2	LEG2	0.0159 (10.0 Hz)	100	☉	10	M	█	BOTTOM	⌂
14	SpO2	Gnd	SPO2	SAD2	Off	Off	☒	40	M	█	BOTTOM	⌂
15	SNORE	Gnd	X3	SNORE	0.0159 (10.0 Hz)	100	☉	75	M	█	BOTTOM	⌂
16	AIRFLO...	X5	Gnd	THERM.	1.5920 (0.10 Hz)	15	☉	30	M	█	BOTTOM	⌂

Advanced Setup...    OK    Cancel    Apply    Help

Montage

← Montage

Save As

Delete

Print

Options

Average A1 + A2

Filter EKG Artifact

Filter CPAP Flow

Filter SaO2

Reset to Default

Saved montages can be access by left clicking the Montage drop down box.

You can also delete or print montages from the Montage Setup

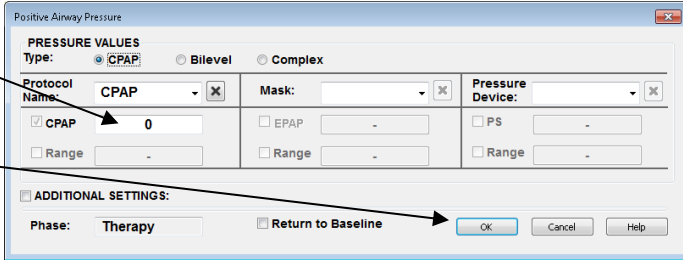
# Quick Reference Guide: Polysmith 11

## Split-Night Study Note:

Polysmith allows a smooth transition from PSG to a split-night study since all channels are being recorded throughout the study (Note: Channels that are recorded but not displayed are denoted by a red "X" in the montage menu).

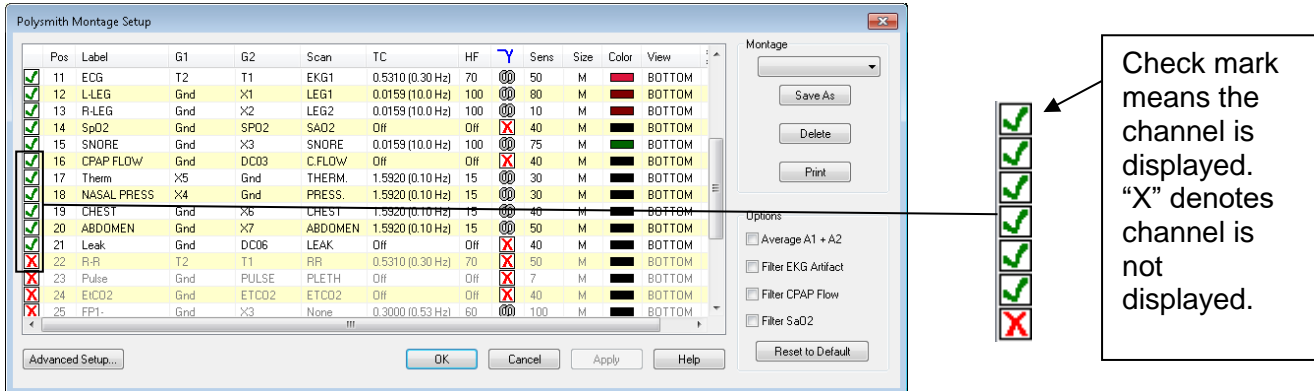
Note: **Very Important** – You must left click on the “Split Night Start” comment in the Event list at the beginning of the PAP portion of the split night study. Split night reports use the “Split Night Start” comment to determine the end of the PSG portion and beginning of the PAP portion of a split night study. It can be added later if it was omitted.

Left click on CPAP, Bilevel, or Complex Pressure comment to manually add the PAP pressure to the study. Type the pressure in the Positive Airway Pressure dialog box and left click on “OK.” This example is for CPAP.



There are several options for transitioning into a split-night study.

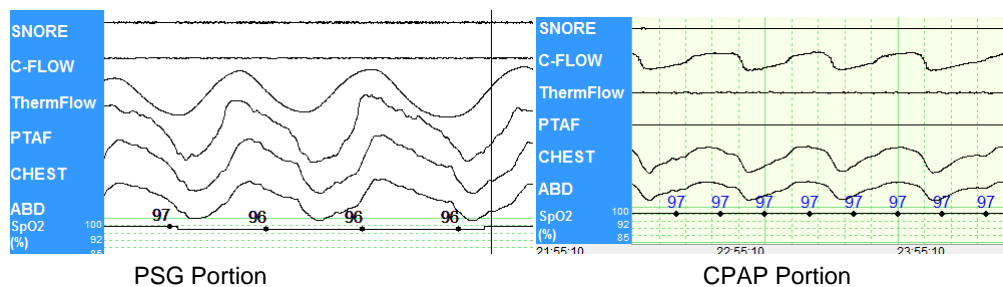
- Option 1: Start the study in a montage that includes CPAP channels with the view already turned on in addition to a Thermister and Pressure Transducer channel. This will result in blank CPAP channels from the beginning of the study until the time that CPAP is applied and blank Thermister and Pressure Transducer channels after CPAP is applied. This option allows the reviewer to view the study in its entirety without the need for changing montages or individual channel settings. Apneas and Hypopneas will be scored on the Therm and Press channels prior to CPAP portion and on CPAP channel thereafter.



Pos	Label	G1	G2	Scan	TC	HF	Sens	Size	Color	View
11	ECG	T2	T1	EKG1	0.5310 (0.30 Hz)	70	50	M	RED	BOTTOM
12	L-LEG	Gnd	X1	LEG1	0.0159 (10.0 Hz)	100	80	M	RED	BOTTOM
13	R-LEG	Gnd	X2	LEG2	0.0159 (10.0 Hz)	100	10	M	RED	BOTTOM
14	SpO2	Gnd	SP02	SAO2	Off	Off	40	M	GREEN	BOTTOM
15	SNORE	Gnd	X3	SNORE	0.0159 (10.0 Hz)	100	75	M	GREEN	BOTTOM
16	CPAP FLOW	Gnd	DC03	C.FLOW	Off	Off	40	M	GREEN	BOTTOM
17	Therm	X5	Gnd	THERM.	1.5920 (0.10 Hz)	15	30	M	GREEN	BOTTOM
18	NASAL PRESS	X4	Gnd	PRESS.	1.5920 (0.10 Hz)	15	30	M	GREEN	BOTTOM
19	CHEST	Gnd	X6	CHEST	1.5920 (0.10 Hz)	15	40	M	BLACK	BOTTOM
20	ABDOMEN	Gnd	X7	ABDOMEN	1.5920 (0.10 Hz)	15	50	M	BLACK	BOTTOM
21	Leak	Gnd	DC06	LEAK	Off	Off	40	M	BLACK	BOTTOM
22	R-R	T2	T1	RR	0.5310 (0.30 Hz)	70	50	M	BLACK	BOTTOM
23	Pulse	Gnd	PULSE	PLETH	Off	Off	7	M	BLACK	BOTTOM
24	ETCO2	Gnd	ETCO2	ETCO2	Off	Off	40	M	BLACK	BOTTOM
25	FP1	Gnd	X3	None	0.3000 (0.53 Hz)	60	100	M	BLACK	BOTTOM



# Quick Reference Guide: Polysmith 11



- Option 2: Start the study in a basic PSG montage. When time to begin CPAP portion of split-night study, open Montage and left-click on the red "X" next to CPAP flow and any additional CPAP channels to turn on the view (the red "X" turns to a green check mark). Change their position in the montage by left-clicking on the number next to the channel in the "Pos" column and left-clicking on the appropriate position number.
- Option 3: Start the study in a basic PSG montage. When time to begin CPAP portion of split-night study, choose a CPAP montage from the "Select a Montage" drop-down menu. Any adjustments made to individual channel sensitivities, filters, etc will need to be repeated since selecting the CPAP montage will reset the channel settings to their defaults. You should also document the change to a different montage and any channel adjustments by entering a tech comment so anyone that views the record after it is completed can make the same adjustments since they will have to view the record in a PSG montage when reviewing the PSG portion and change to a CPAP montage when reviewing the CPAP portion.

# Quick Reference Guide: Polysmith 11

## Entering CPAP/BiLevel/ASV Settings:

To enter device pressure settings, left-click on “CPAP”, “Bilevel”, or “Complex Pressure” comment in log eventlist. Enter pressure settings and click “OK”.

CPAP

The screenshot shows the 'Positive Airway Pressure' dialog box with the 'Type' set to 'CPAP'. The 'Protocol Name' is 'CPAP' and the 'Mask' is empty. The 'Pressure Device' is also empty. Under 'PRESSURE VALUES', 'CPAP' is checked with a value of '0'. 'EPAP' and 'PS' are unchecked. Under 'ADDITIONAL SETTINGS', 'Phase' is 'Therapy' and 'Return to Baseline' is unchecked. Buttons for 'OK', 'Cancel', and 'Help' are at the bottom right.

Bilevel

The screenshot shows the 'Positive Airway Pressure' dialog box with the 'Type' set to 'Bilevel'. The 'Protocol Name' is 'Bilevel' and the 'Mask' is empty. The 'Pressure Device' is also empty. Under 'PRESSURE VALUES', 'IPAP' and 'EPAP' are checked. Under 'ADDITIONAL SETTINGS', 'Phase' is 'Therapy' and 'Return to Baseline' is unchecked. Buttons for 'OK', 'Cancel', and 'Help' are at the bottom right.

Complex

The screenshot shows the 'Positive Airway Pressure' dialog box with the 'Type' set to 'Complex'. The 'Protocol Name' is 'Complex' and the 'Mask' is empty. The 'Pressure Device' is also empty. Under 'PRESSURE VALUES', 'IPAP', 'EPAP', and 'PS' are checked, each with a 'MAX' value. 'Range' is checked for each parameter with a 'MIN' value. Under 'ADDITIONAL SETTINGS', 'Phase' is 'Therapy' and 'Return to Baseline' is unchecked. Buttons for 'OK', 'Cancel', and 'Help' are at the bottom right.

## Entering Supplemental Oxygen or ASV/Bilevel Backup Rate Settings:

To enter supplemental oxygen or ASV/BiLevel backup rate settings, left-click on “O2 Volume” enter the liter flow and click “OK”.

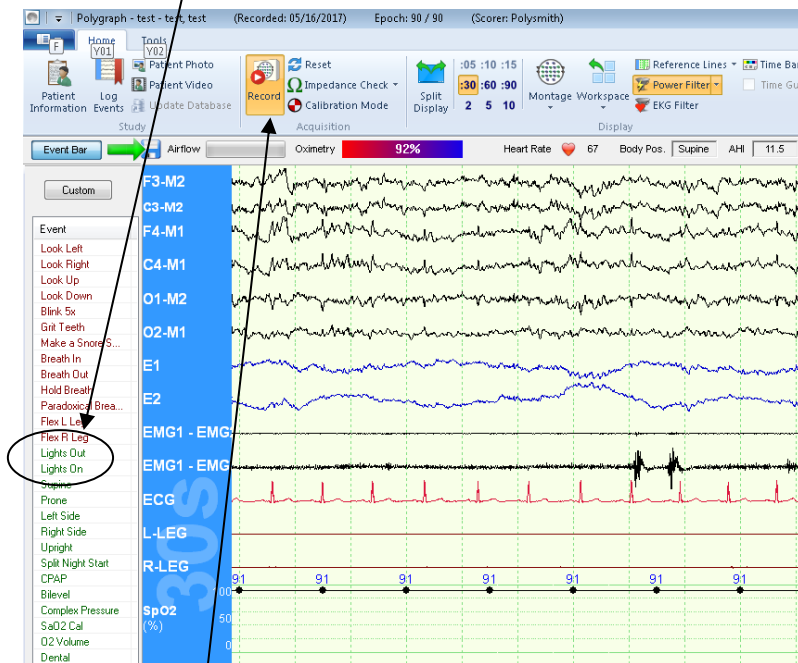
Split Night Start
CPAP
Bilevel
Complex Pressure
SaO2 Cal
O2 Volume
Dental


The screenshot shows the 'Log Event Edit' dialog box with a text input field containing 'O2 Volume'. Buttons for 'OK' and 'Cancel' are at the bottom.

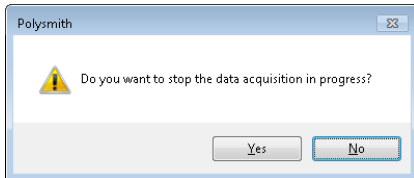
# Quick Reference Guide: Polysmith 11

## Stopping a recording:

- 1) Make sure to left click on “Lights On” from the “Event Bar.”



- 2) Left Click on the “Record” icon  to stop the study.
- 3) A new window will appear asking “Do you want to stop the data acquisition in progress?”



Left click on “Yes.”

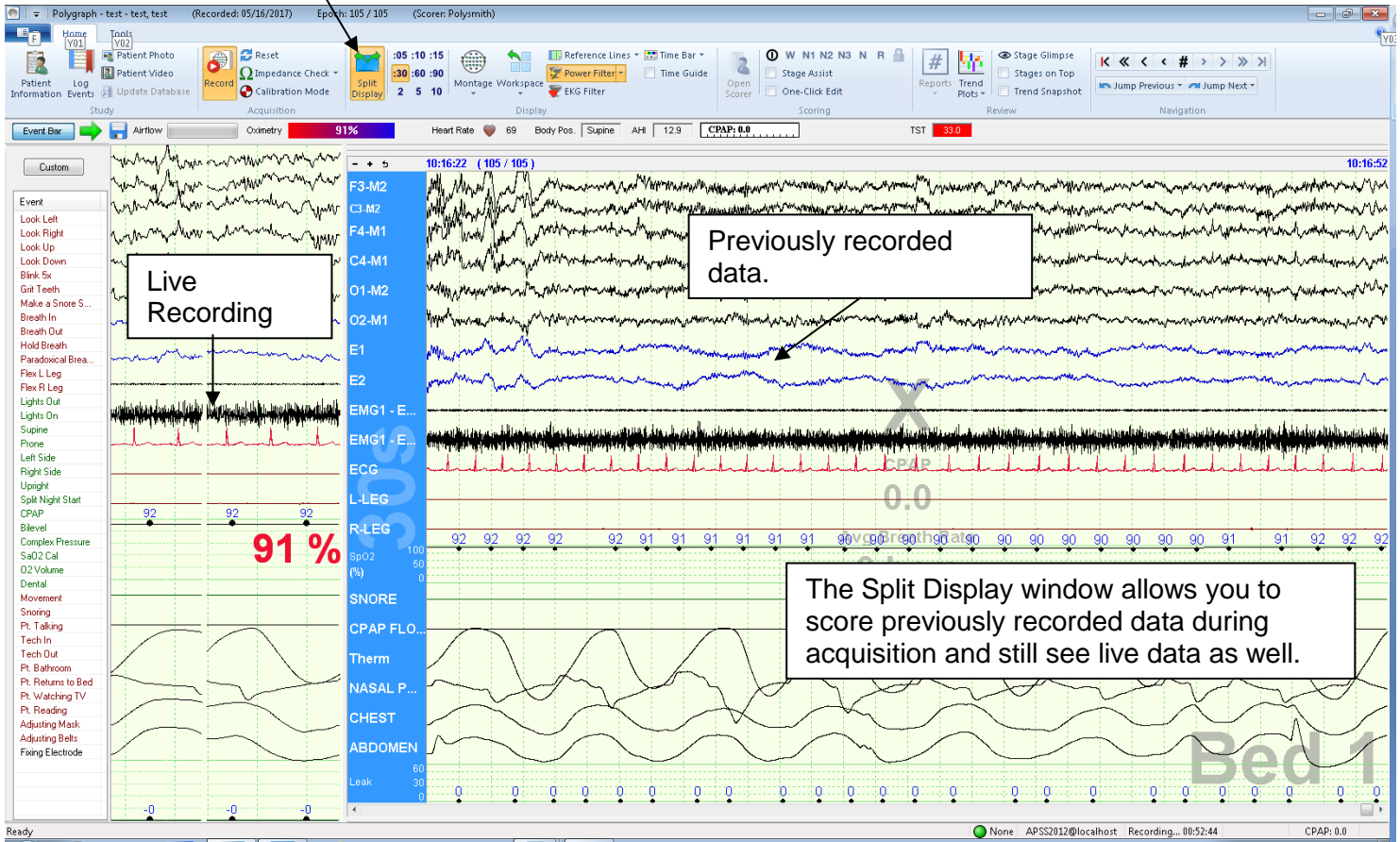
- 4) Depending on your configuration, a dialog box may appear asking you the status of the study and if you would like to update the database.

# Quick Reference Guide: Polysmith 11

## Scoring a Study:

A study can be manually scored during acquisition or after the recording is complete. To start scoring a study during acquisition, left click on

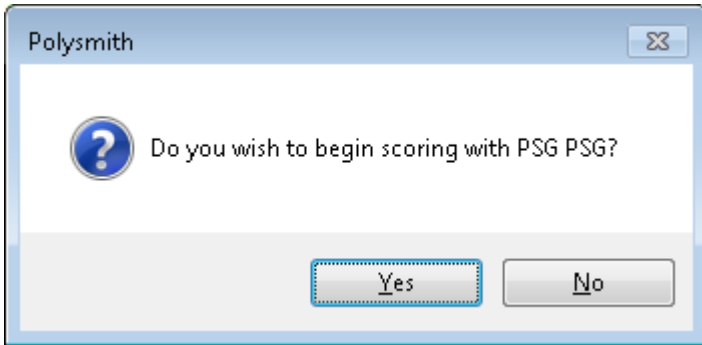
the "Split Display" icon.



To begin scoring the record, press any number key associated with a sleep stage applicable to the epoch you are viewing (1=N1, 2=N2, 3=N3, 5=REM) or score any clinical event by left clicking and dragging on the appropriate channel (Ex. Left click and drag on PTAF channel to score Obstructive Hypopnea).

A scorer dialogue box will appear verifying the person scoring. If the name on the display is you, select "Yes." The scorer verification is only done once for each study at the beginning while being scored.

# Quick Reference Guide: Polysmith 11

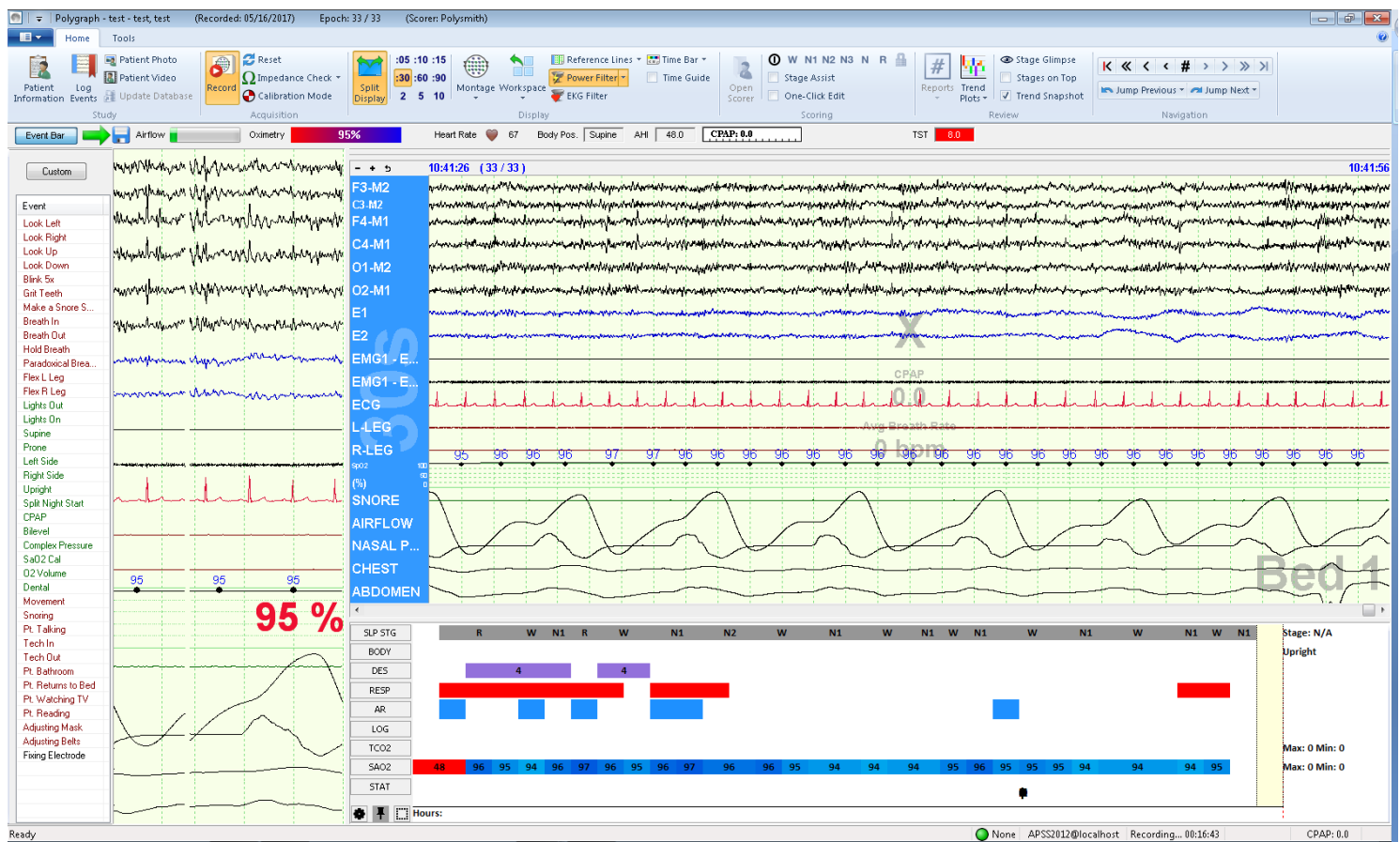


Left click on “Yes” if the displayed name matches the scorer. This confirms that you are the scorer for this record and a unique scoring file is created.

(Note: A study can be scored by multiple staff members. Each time a new scorer opens a record and stages or marks an event, a verification dialog box will appear to confirm who the scorer is. A separate scoring file is generated for each staff member who scores or modifies a scoring file.

## toggling Trend Snapshot Bar:

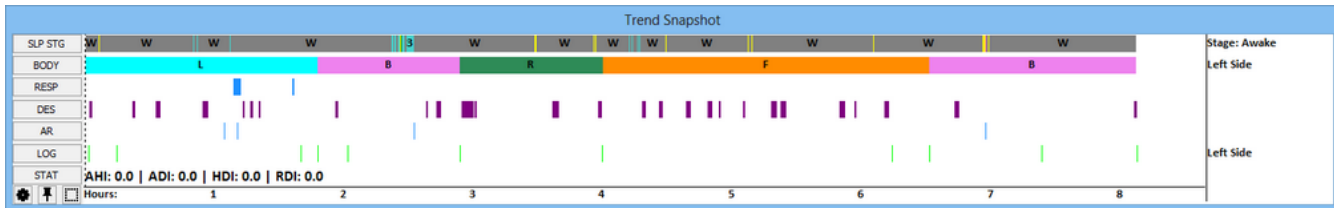
The Trend Snapshot bar displays trend summaries for multiple parameters at the bottom of the review window. It can be displayed in the Split Display window during acquisition or in the main polygraph window in review. The Trend Snapshot bar can be turned on and off by clicking the “Trend Snapshot” check box in the “Home” ribbon bar. When the bar is visible, you can select a trend plot from the drop down list. You can also show or hide the log event list with the **Event List** button. Navigate to different points in the record by clicking on the trend plot or by double-clicking on a log event in the list.



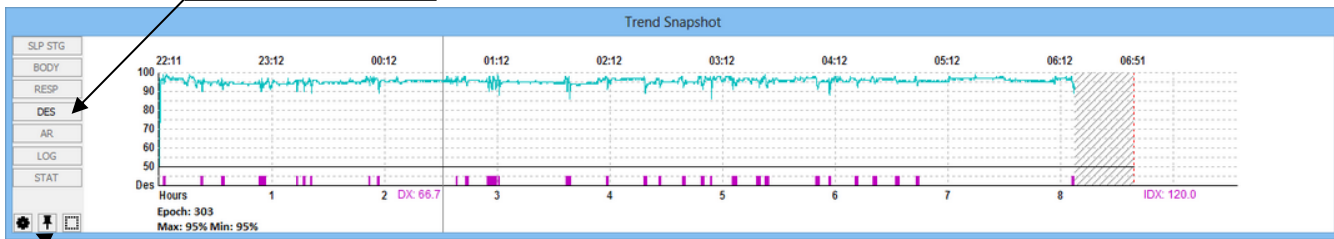
# Quick Reference Guide: Polysmith 11

## Trend Snapshot:

The trend snapshot gives a quick view of a subset of simplified trend plots (selected in the settings) which gives an overview of events throughout the entire study. You can still view the trend in detail by clicking the trend button in the left column.

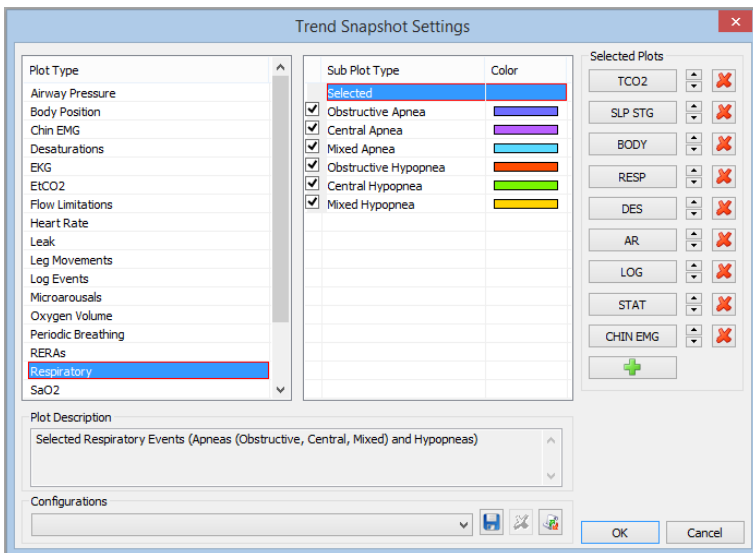


Detailed view



Settings button

The settings dialog can be accessed from either the button in the lower left of the Trend Snapshot window, the context menu of the Trend Snapshot, or from the main settings dialog under 'Trend Plots'. This window contains two lists, **Plot Type** and **Sub Plot Type** which are used to add and delete plots to be included in the Trend Snapshot, change color, and arrange the order.



# Quick Reference Guide: Polysmith 11

## Navigating a Record:

The polygraph file can be navigated by using the buttons in the **Navigation** section of the Home Ribbon Bar, **TimeBar**, or the keyboard.

## Navigation on the Home Ribbon Bar

Use these buttons in the main tool bar to navigate through a file. Jump to lights on or lights out, auto-page, page one page at a time or select an epoch to jump to.

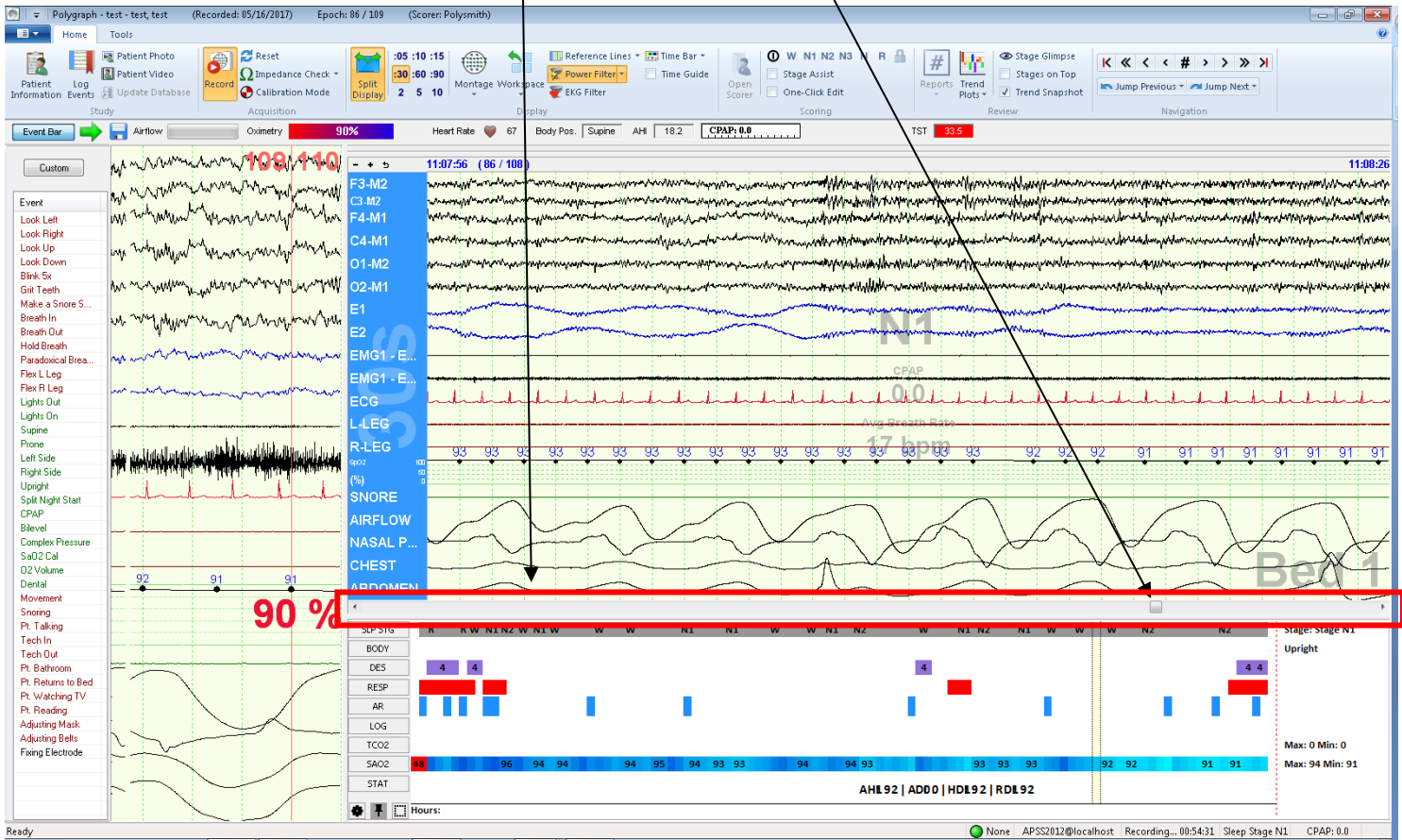


## Keyboard

The Left and Right keys will page forward and back. Pressing the Up key will begin auto-page forward. Press the Up key again to cancel auto-page. Pressing the Down key will begin auto-page back. Press the Down key again to cancel auto-page. Jump directly to an epoch number by pressing the + key on the number pad of the keyboard, and typing the epoch number desired and pressing Enter.

## Time Bar

The Time Bar functions like a normal windows scroll bar. Click and drag the thumb to the desired position on the Time Bar and release.



# Quick Reference Guide: Polysmith 11

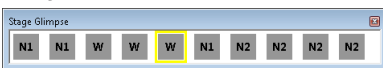
## Changing the Time Base:

Click on the 5s, 10s, 15s, 30s, 60s, 2m, 5m or 10m button in the Home Ribbon Bar to set the time span for the Split Display window. You can also cycle through the eight possible time spans by clicking on the plus or minus button in the upper left corner of the Split Display screen.

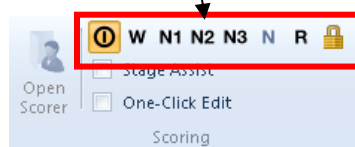
## Sleep Stage Scoring:

Sleep stage editing is enabled and disabled by selecting **Enable Staging** from the **Scoring** section of the **Home Ribbon Bar** or by using F2 on the keyboard. When “Enable Staging” is selected the Sleep Stage Edit Bar will be visible (and not grayed out). Turn “Enable Staging” off when not in use to prevent accidental number pad keystrokes from changing the sleep stage. Change the current sleep stage by selecting a stage from the Sleep Stage Edit Bar from the Home Ribbon Bar or by using the number pad on the keyboard.

### Stage Glimpse Bar



### Sleep Stage Edit Bar



(Note: For fast sleep-stage editing, use the number pad in combination with the arrow keys to edit an entire polygraph file. Use the number pad to change the sleep stage and advance to the next epoch. Use the arrow keys to advance to the next epoch without changing the sleep stage.)



# Quick Reference Guide: Polysmith 11

## Stage Assist

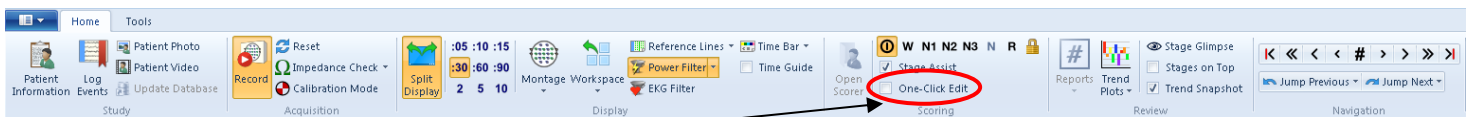
Use this feature to decrease the time needed to sleep stage a record. During the automated analysis, Polysmith tags those epochs that do not have a definitive sleep stage. By scoring only these epochs, manual scoring time can be greatly reduced while maintaining quality as good or better than manual scoring alone. To activate this feature, click the Stage Assist check box in the Scoring portion of the Home Ribbon Bar. Polysmith will jump to the first epoch to be scored. Continue scoring as you normally would and the record will automatically jump to the next epoch to be scored. When Stage Assist is enabled, the sleep stage trend plot will display purple tick marks for the epochs that are to be scored. These will disappear as the record is scored.



The table below shows the results of a 23 record study that was scored by three scorers and then scored using Stage Assist. The three human scorers were designated as Master, subordinate, or inter-lab. The master scorer is a registered tech or physician with at least 5 years experience scoring sleep records. The subordinate is a less experienced registered sleep tech in the same lab. The inter-lab scorer is an expert scorer from another lab used as a control. The master scorer is used as the gold standard. The results when using the scoring assist feature are in between the inter-lab results and the intra-lab results.

Subordinate	Inter-lab	Polysmith	Polysmith w/ scoring assist
89.5%	82.8%	73.0%	84.4%

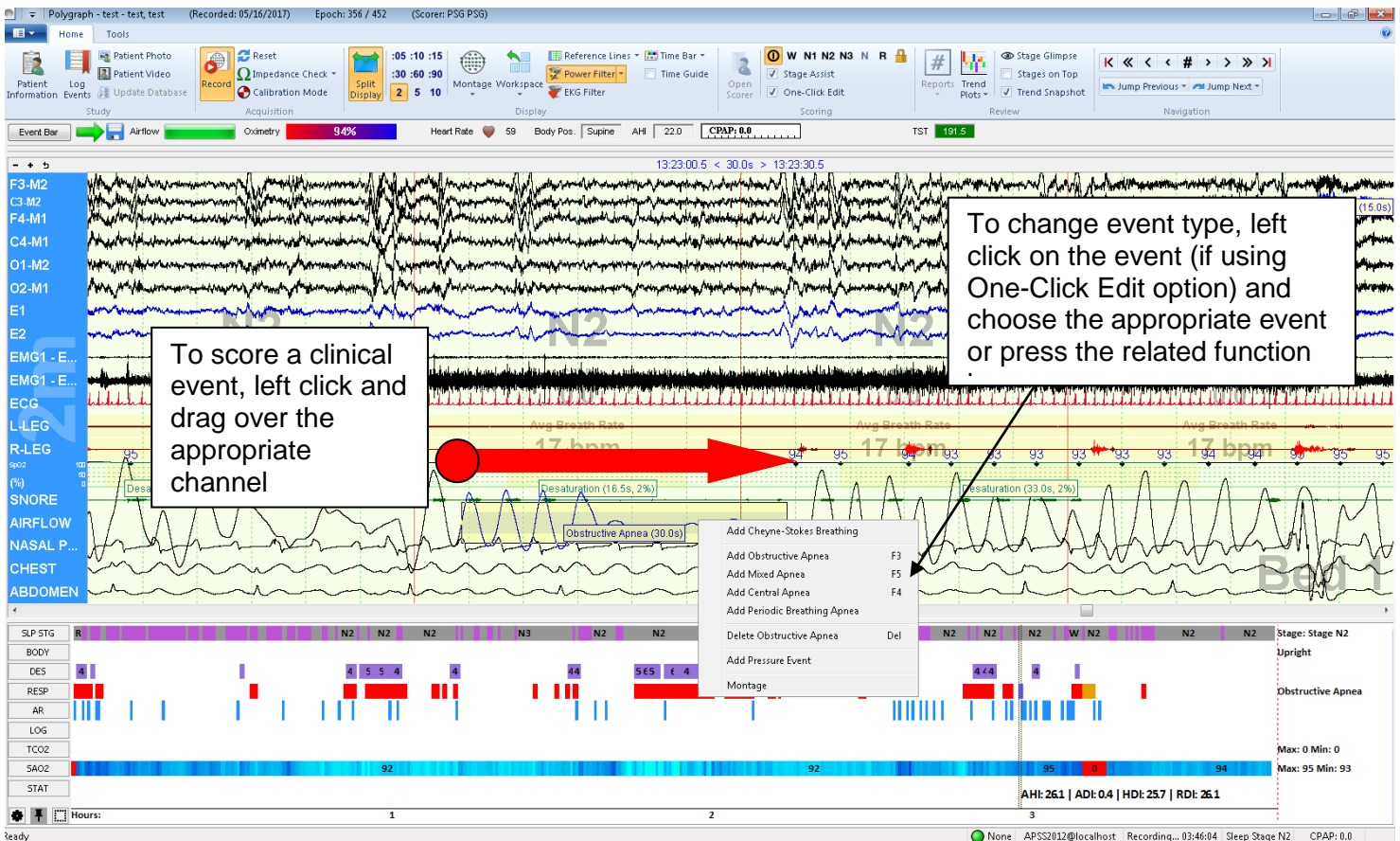
## Using One-Click Edit



One-Click Editing allows users to quickly add events with a single click of the mouse. Enable One-Click editing by clicking on the check box for "One-Click Edit" under the "Scoring" portion of the Home Ribbon bar. Left-click to add an event and right-click on an event to delete it. Polysmith determines the type of event by the channel the user clicks. To change the type of an apnea or hypopnea event in One-Click Edit mode, left click on the event.

# Quick Reference Guide: Polysmith 11

## Clinical Event Scoring:



## Scoring Apneas or Hypopneas:

Apneas are scored on the "Therm." (Thermister) channel before CPAP is applied. Hypopneas are scored on the "Press." (Pressure) channel before CPAP is applied. Both apneas and hypopneas are scored on the "C. Flow" (CPAP Pressure) channel after CPAP is applied. There are seven types of airflow events (listed in the table below). You can switch between event types by using the hot-keys or by right-clicking (left-click when in one-click edit mode) on an existing event and selecting the event type from the pop-up menu.

If there is only one scan channel set, both apneas and hypopneas are scored off that channel. For a split night (or full night CPAP) study, depending on the various scan channels set, apneas and hypopneas are scored on different channels as mentioned below:

1. If THERM., PRESS. and C. Flow. channels are set, before split night start apneas are scored on "THERM." and hypopneas are scored on "PRESS." After the split night start (or CPAP start), both apneas and hypopneas are scored on "C. Flow" channel.

# Quick Reference Guide:

## Polysmith 11

2. If only “THERM.” and “PRESS.” channels are set, before split night start apneas are scored on “THERM.” and hypopneas are scored on “PRESS.” channel and after split night start (or PAP entry) both apneas and hypopneas are scored on “PRESS.” channel.
3. If a THERM or PRESS. and C. Flow. channels are set, before split night start apneas and hypopneas are scored on “THERM.” or “PRESS.” channel and on “C. Flow” after split night start (or PAP entry).

Clinical Event Type	Scan Channel	Hot key
Obstructive Apnea	Therm.,C. Flow	F3
Central Apnea	Therm.,C. Flow	F4
Mixed Apnea	Therm.,C. Flow	F5
Periodic Breathing Apnea	Therm.,C. Flow	-
Obstructive Hypopnea	Press.,C. Flow	F6
Central Hypopnea	Press.,C. Flow	F7
Mixed Hypopnea	Press.,C. Flow	F8
Oxygen Desaturation	SaO2	-
Snore	Snore	-
Limb Movement	Leg1 and Leg2	F11
Microarousal	EEG, EOG, EMG, EKG	F9
Custom Events	Assigned by user	-

### **Scoring RERAs:**

Score RERAs on the “Press.” channel. Click and drag on the “Press.” channel to add an event or right-click on an event to delete it.

### **Scoring Desaturations:**

Score Desaturations on the SaO2 channel. Click and drag on the SaO2 channel to add an event or right-click on an event to delete it.

### **Scoring Limb Movements:**

Leg movements are scored on the Leg scan channels (LEG1, and LEG2). Click and drag on a Leg channel to add an event or right-click on an existing event to delete it. PLMS (Periodic Limb Movement Series) are automatically scored on the combined leg channels based on the location and frequency of the leg movements as defined in the Polysmith Program Settings. Every time an event is added; Polysmith will adjust PLMS and instantly show the change.

# Quick Reference Guide:

## Polysmith 11

### Scoring Snores:

Snores are scored on the Snore channel. Click and drag on the Snore channel to add an event or right-click on an existing event to delete it. SS (Snore Series) are automatically scored on the Snore channel when there are snores with a minimum separation of 1 second and a maximum separation of 6 seconds. The minimum frequency for a snore series is 2 snores. Every time an event is added; Polysmith will adjust Snore Series and instantly show the change.

### Scoring Microarousals:

Microarousals are scored on any EEG, EOG, EMG, or EKG scan channel. Microarousals can either have a duration or no duration depending on the configurations in **Tools Ribbon Bar->Settings->Scoring->Arousals**. Right-click on any of these channels to add or delete a Microarousal. The event tag will appear below the occipital channel. Polysmith will automatically associate Microarousals with nearby events. When an event is added, Polysmith will instantly append associated events to the event tag.

### Scoring Custom Events:

Custom events are scored on the scan channel designated in the Polysmith Settings. To score an event, click and drag on the designated channel and select the event type from the pop-up menu. If a series is associated with the custom event, Polysmith will automatically generate the series based on the rules set up in Polysmith Settings.

### Adding a tech comment or system event:

To add a comment in Split Display or to a completed record, right click on the epoch you want to enter the comment, left click on Add Log Event (or Press F12), then choose from the pre-defined drop down list or type directly in the comment box. Left-click "OK" to enter the comment in the record.

Choose from Predefined Log Events or type your comment in the "Description" box.

# Quick Reference Guide:

## Polysmith 11

### Deleting a tech comment or system event:

To delete a previously entered tech comment or system event, right-click on the comment and left-click on Delete Log Event. You can also access the entire Log Event List by left-clicking on "View" then "Log Events" in the Polysmith menu bar. Left-click on the comment you want to delete in the Log Event List and left-click "Delete" to delete it.

The image shows two parts of the Polysmith 11 interface. On the left is a waveform with a red vertical line and a comment 'Patient to Restroom'. A context menu is open over the comment, showing 'Delete Log Event' and 'Delete' options. A text box explains: 'Right-click directly on the comment to open the option menu, left-click Delete Log Event.' On the right is the 'Log Event List' window, which contains a table with the following data:

Epoch	Type	Record ...	Time	Description
5	M	00:02:03	14:50:37	Patient to Restroom

A text box explains: 'Left-click on the comment you wish to delete, then left-click on "Delete."' The 'Delete' button in the window's toolbar is highlighted with a red 'X' icon.

# Quick Reference Guide: Polysmith 11

## Opening a Study through Polysmith DMS (Calendar):

Right-click on the patient's name in the Calendar. Left-click on "View in Polysmith." The study will open in Polysmith.

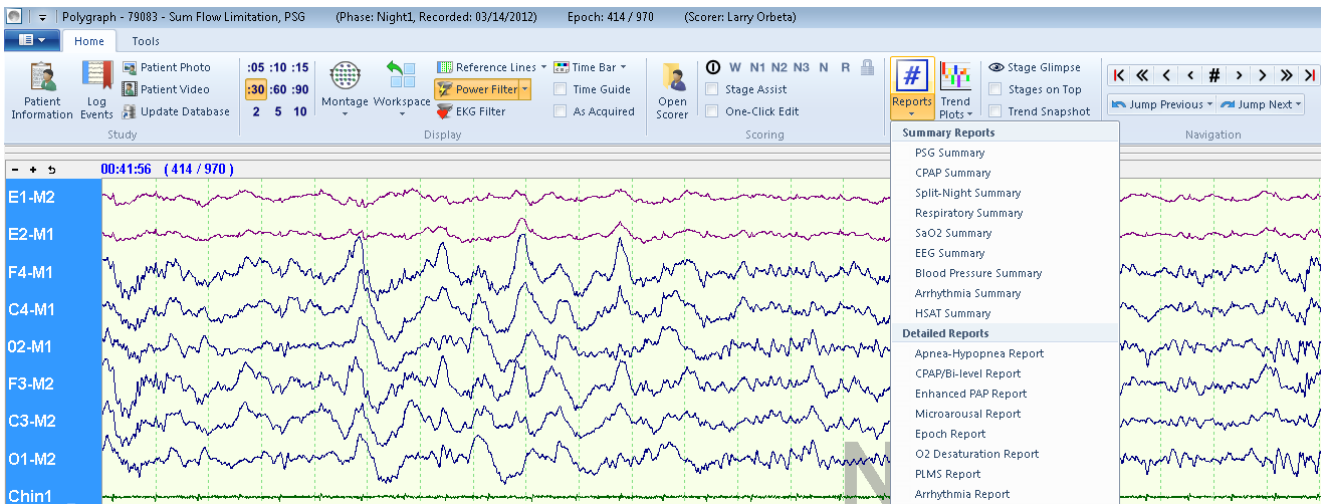
The screenshot displays the Polysmith DMS interface for March 2012. The calendar grid shows patient assignments for various rooms and beds. A context menu is open over the name 'Flow Limitation, EIC02' on March 13th. Two callout boxes with arrows point to the menu: one says 'Right click on the patient's name' and the other says 'Left click on "Review in Polysmith"'. The menu options include: Patient Information, View Patient History, Attachments, Review in Polysmith, View Reports, Schedule Additional Study, Add Note, Block Date, Blocked Dates, and Link surveys.

Day	Patient Name	Room/Bed
Sunday, Feb 26		
Monday 27	Lucas	PSG Room: R122 Bed: Bed 4
	Peery, Ronald	SPLIT R137/Bed 7
Tuesday 28	Ramirez, Nathan	SPLIT R138/Bed 2
	Michel	PSG Room: R178 Bed: Bed 2
	Dunbar, Jose	PSG R111/Bed 4
Wednesday 29		
Thursday 1	Bryant	PSG Room: R195 Bed: Bed 6
Friday 2		
Saturday 3	Coppa, Kenny	SPLIT R148/Bed 7
4	Cisneros, Robert	PSG R154/Bed 4
5	Tighe	PSG Room: R107 Bed: Bed 11
6		
7	Bolden, Deborah	PSG R165/Bed 12
8		
9		
10	Lewis	SPLIT Room: R108 Bed: Bed 1
11	Cox	PSG Room: R126 Bed: Bed 3
12	Bird	PSG Room: R182 Bed: Bed 1
13	Flow Limitation, EIC02	PSG GL05 CPAP R118/Bed 5
	Clegg, Allison	
14	Sum Flow Limitation	PSG TR/06
15		
16	Flow Limitation	PSG Room: R199 Bed: Bed 5
17	Emmons, Maria	PSG R185/Bed 2
18		
19		
20		
21		
22		
23		
24		
25	Elkins	PSG Room: R176 Bed: Bed 6
26		
27		
28		
29	Williams, Jesse	PSG R157/Bed 5
30		
31	Kelly	PSG Room: R131 Bed: Bed 7
	Wallen	PSG Room: R104 Bed: Bed 3
	Bird	PSG Room: R139 Bed: Bed 6

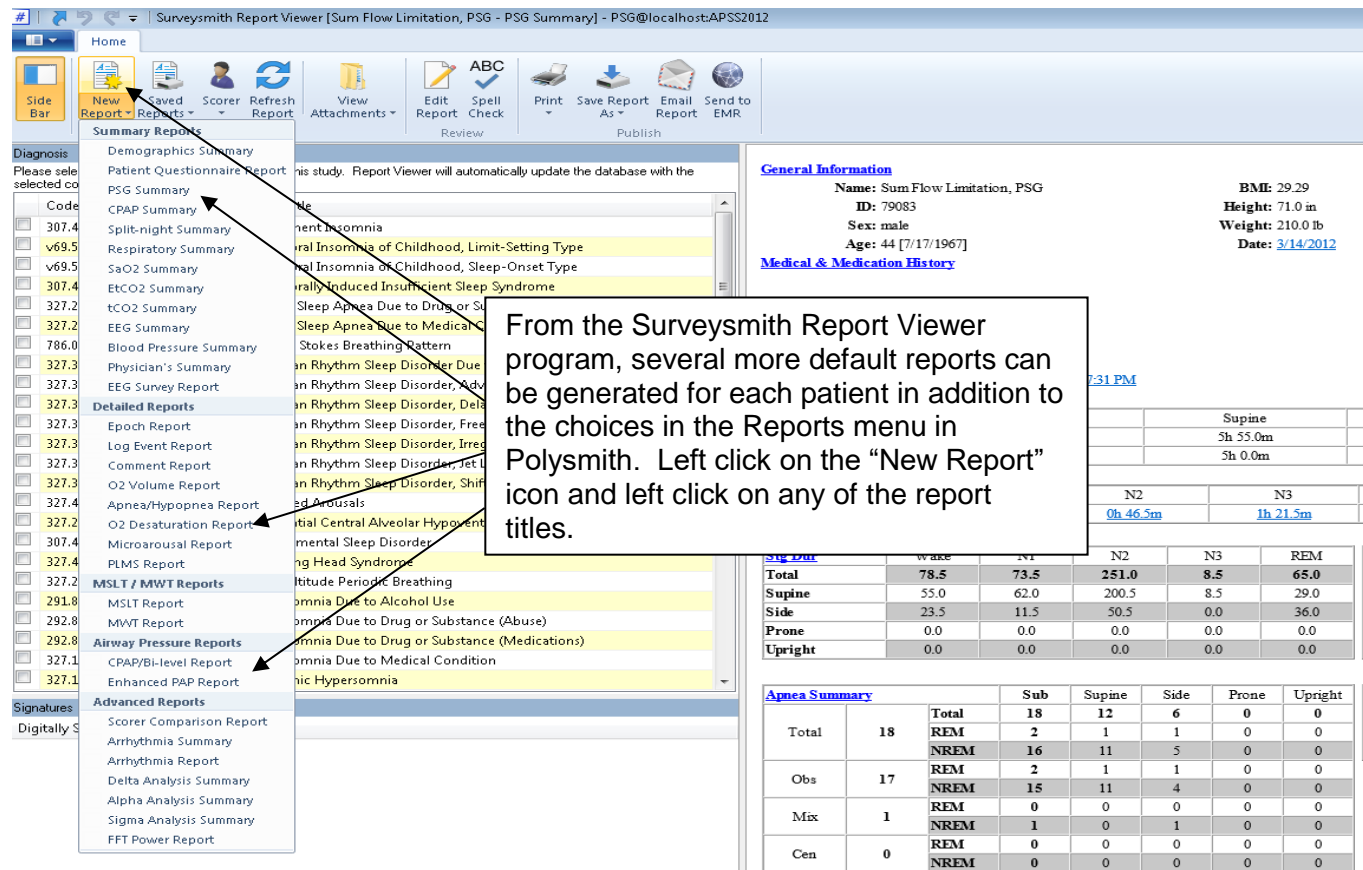
# Quick Reference Guide: Polysmith 11

## Generating a Report:

After the study has been completed and scored (manually or auto-scored), a report can be generated that will incorporate the scored events and stages. There are several default reports to choose from. To generate a report, open a study (or leave the currently scored study open) and left-click on "Reports" from "Review" portion of the Home Ribbon bar. Left-click on the desired report. In this example, the PSG Summary report is selected.



Report Viewer program will open with the selected report.

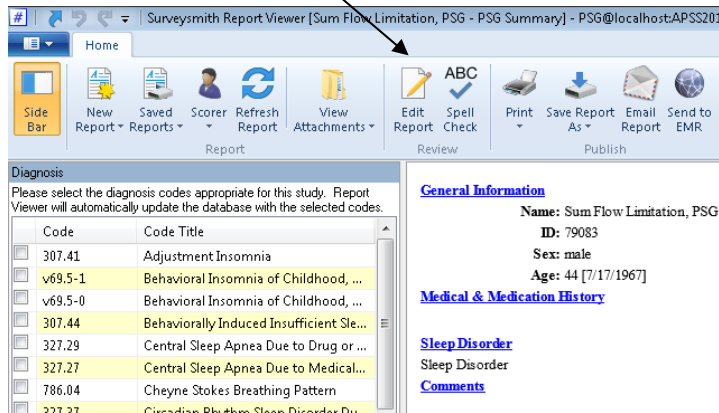


# Quick Reference Guide: Polysmith 11

## Manually Editing a Report:

“Edit Report” allows you to type directly on the report as if it is a word processor. When you are finished editing the report left-click the “Edit Report” icon once more to exit Edit Mode. (Note: Each time you left-click the “Edit Report” icon, edit mode is toggled on and off.)

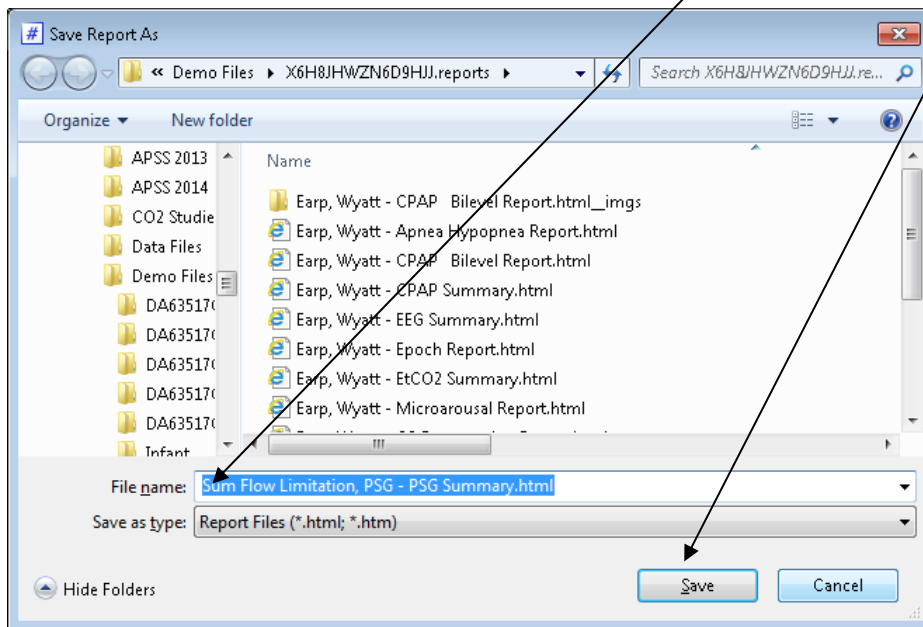
You can manually edit the report by choosing the “Edit Report” icon from the Home Ribbon bar.



## Saving a Report:

If you manually edit a report you should save it so your editing will be saved. **You do not need to save the report if you do not manually alter it in any way.** Reports can be generated on each scoring set for as long as the study is accessible.

To save a report, left-click on “Save Report As” in the Report Viewer program Home Ribbon bar. The “Save Report As” dialogue box will open. If you wish to change the name of the report, type the name of the report in the “File Name” box and left-click “Save.” If you do not wish to change the name of the report, simply left-click “Save.” The report will be saved with the patient study.

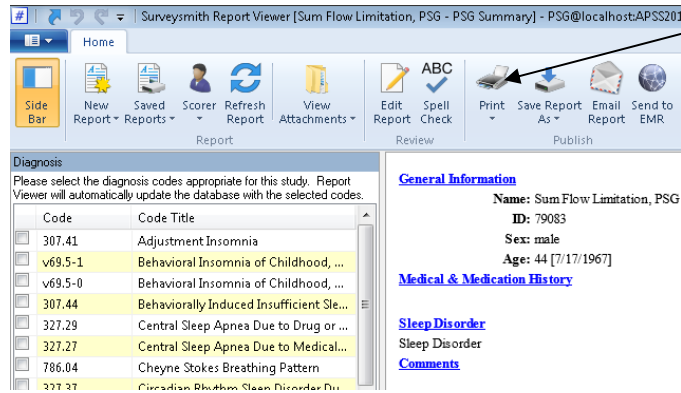




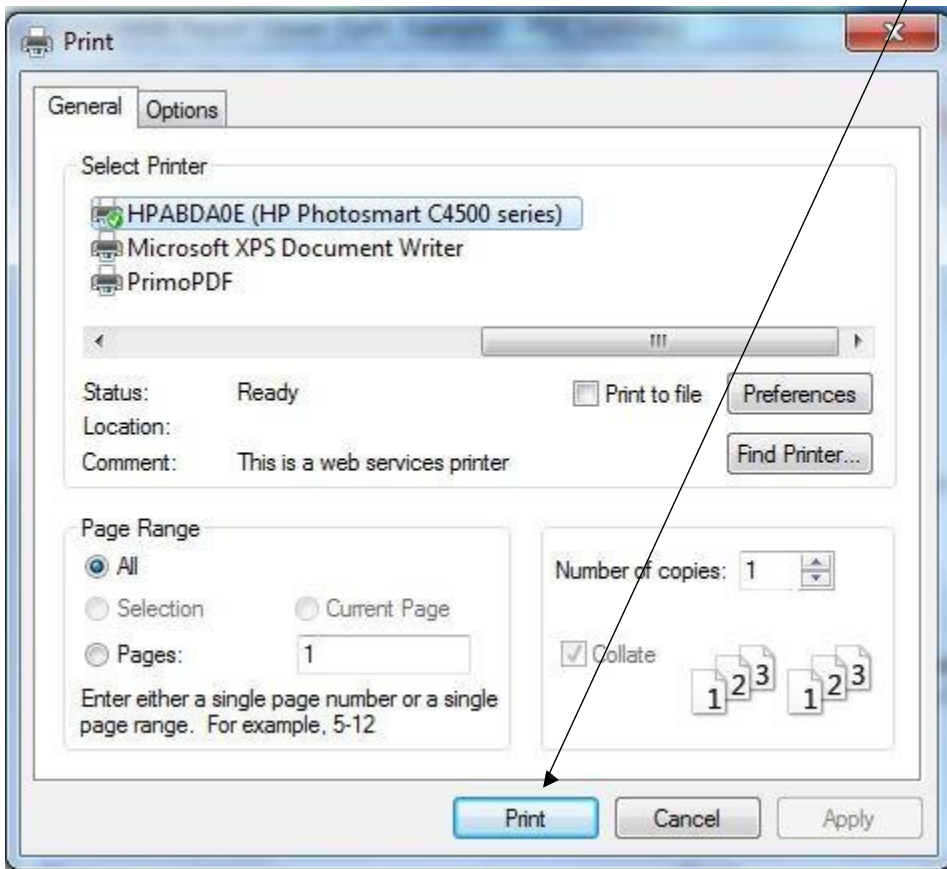
# Quick Reference Guide: Polysmith 11

## Printing a Report:

Reports can be printed from the Report Viewer program. To print a report, open the desired report and left-click on "Print."



The Print dialogue box will open. Ensure that the printer settings are correct then left-click "Print" on the Print dialogue box.



# Quick Reference Guide: Polysmith 11

## Copying or Archiving a Study to CD/DVD or Server Location:

Note: The copy function copies the file to a destination disk or drive/server location and updates the database as to the location of the file. The archive function provides the same function as the copy function, but also updates the database as "archived". **(Without a database they perform the same function)**

- 1) Go to the computer that the study was collected on
- 2) \*(For CD/DVD only) Insert Blank CD or DVD into the appropriate CD/DVD drive (In most cases, this will be the top or only CD/DVD drive on the computer).
- 3) \*(For CD/DVD only) In some cases, a window will appear shortly after inserting a blank CD.

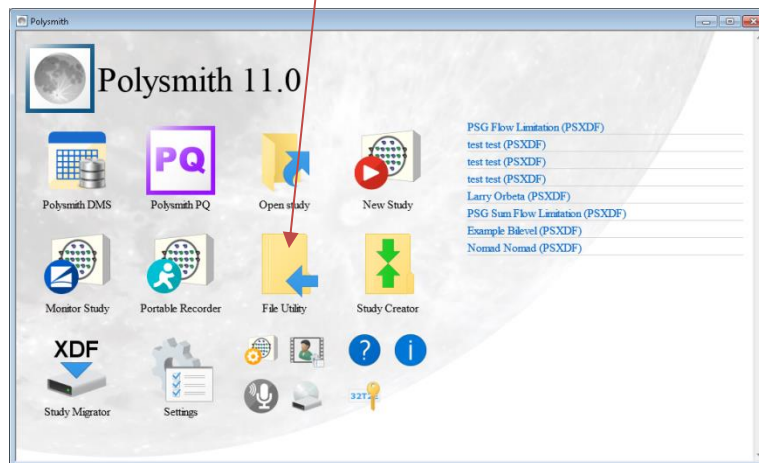


\*(For CD/DVD only) Close out the window by either left clicking on "Cancel" or the "x" in the top right corner of the window.



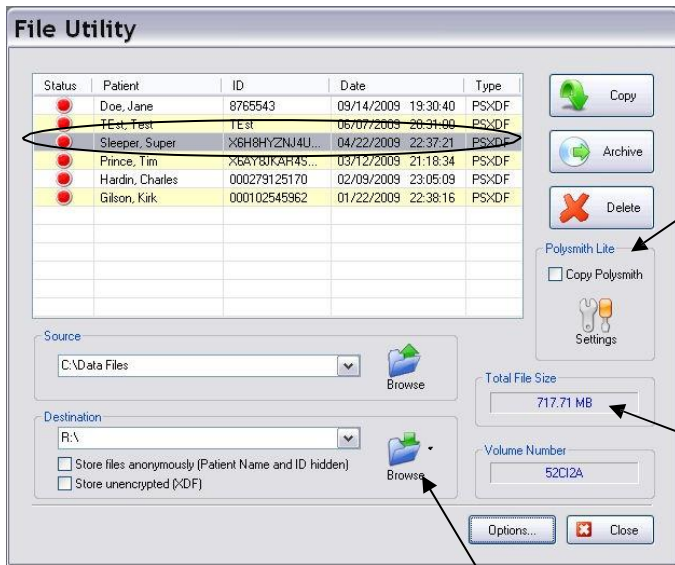
Double left click on the Polysmith Icon.

- 4) The Polysmith window will open. Left click on "File Utility."



# Quick Reference Guide: Polysmith 11

- 5) The File Utility window will appear. Left click on the patient's name that you wish to copy. The patient's name will be highlighted. You can choose more than one patient by holding the CTRL button on the keyboard and left-clicking the desired patients. All selected patients will be highlighted along with the total size of the files to be copied.

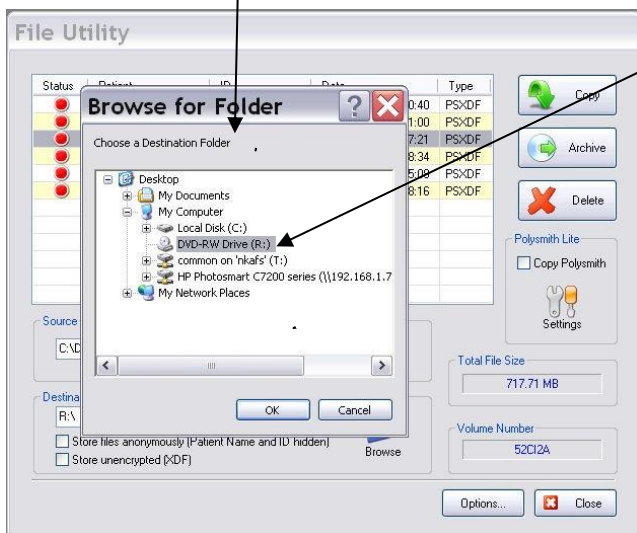


Polysmith Lite allows you to view files from a CD without a full version of Polysmith installed. When Polysmith Lite is copied to a CD with a file it is installed automatically when the CD is placed in the drive. Polysmith Lite allows you to view a patient file on any Windows based computer. Studies cannot be scored using Polysmith Lite. Only click in the "Copy Polysmith" box if you wish to create a Polysmith Lite CD/DVD.

Total file size of selected patient files. Refer to your CD or DVD for storage limitations of the disk.

Under the "Destination" box, left click on the "Browse" button and a new box will appear.

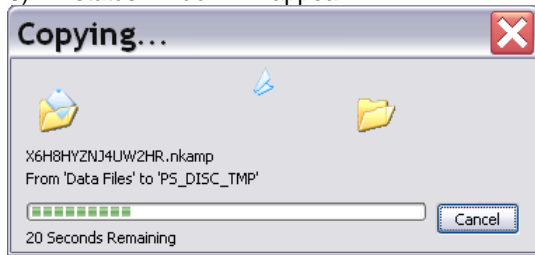
- 6) Left click on the CD/DVD drive or the server location (Typically, the CD/DVD drive is the R: drive) and left click on "OK." (Note: If applicable, check with your supervisor for the letter/name of your server location)



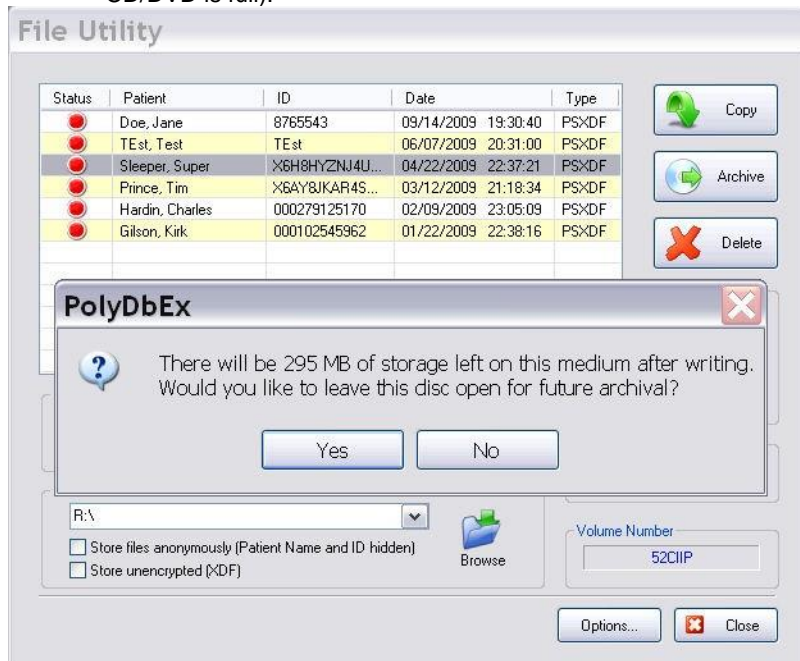
- 7) Left click on the "Copy" or "Archive" button

# Quick Reference Guide: Polysmith 11

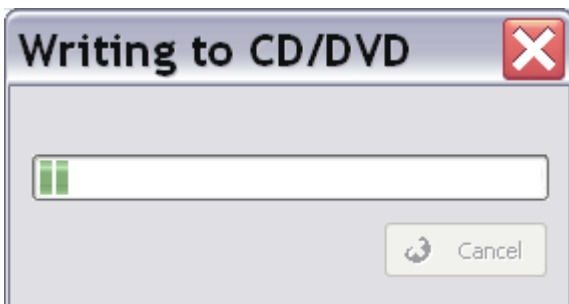
8) A status window will appear.



9) \*(For CD/DVD only) A new dialogue box will appear. If copying to a CD/DVD, Polysmith will ask if you would like to leave the recording session open. Allowing for the recording session to stay open will permit you to add another study to the CD/DVD at a later date. Answering "no" will close the CD/DVD burning session and prevent additional studies from being added to the CD/DVD. Note: To make the CD/DVD readable on PC, you will need to close the recording session at some point (preferably when the CD/DVD is full).

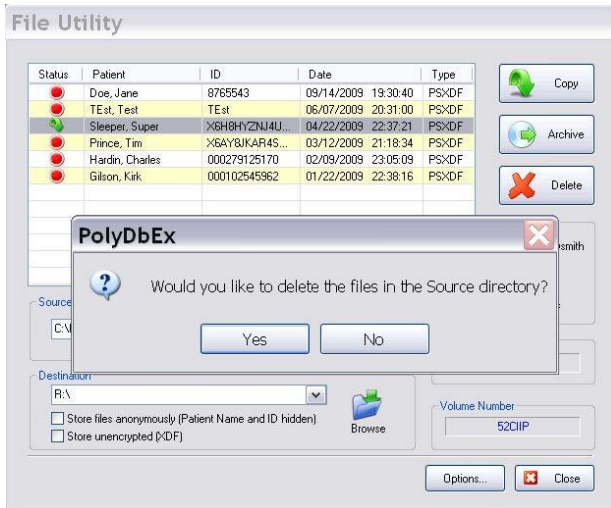


10) \*(For CD/DVD only) A progress window will appear.




# Quick Reference Guide: Polysmith 11

- 11) After the disk has completed recording (For CD/DVD only - the CD/DVD door will open) or file has been copied/archived to the server location, a new dialogue box will appear.



Click on “Yes” if you want to delete the original off the hard drive. Click on “No” if you want to keep the original copy on the Hard Drive.

- 12) Left click on the close button  on the bottom right hand corner of the File Utility window. Left Click on File then Exit to close the Polysmith program.

## **KEY NOTES ON ARCHIVING OR COPYING MSLTs**

- 1) Copy the MSLT project as well as each individual nap.
- 2) When deleting an MSLT, delete the MSLT project first. Then delete each individual nap after the MSLT project is deleted.

# Quick Reference Guide:

## Polysmith 11

### Appending a File:

### Appending Live Studies:

Existing studies can be combined using the Study Creator at any time. You can also append a new recording to an existing study when you start the recording from Polysmith DMS. This is useful if a recording is aborted or if you want to create a combined study at the time the recording is started. To append a new recording, the following criteria must be met:

1. The recording must be either a PSG or a MSLT/MWT study.
2. The recording must reside on the same machine that originally recorded the previous study portion.




To append a new recording, right-click the patient in the calendar view, and select the **Append NewRecording** option. Polysmith will be launched (if it is not already running) and the New Recording dialog will appear. Since the new recording is being appended to an existing one, you will not be able to alter the patient information or the storage path. If you attempt to append to a non-local recording, Polysmith DMS will bring up an error dialog box and tell you which machine the recording is located on.

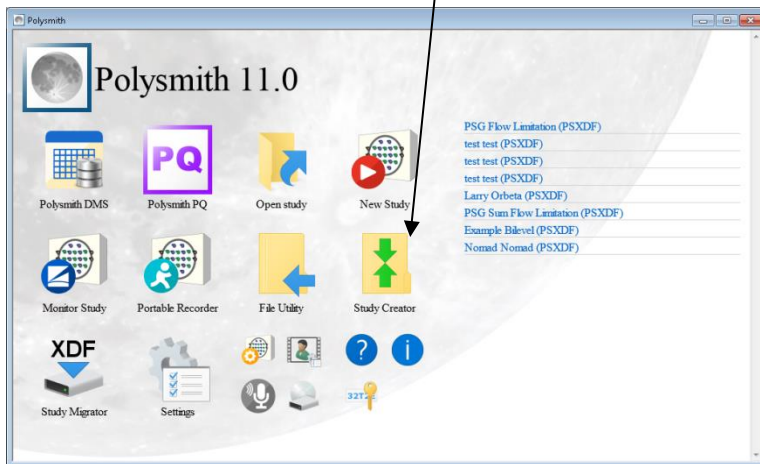
# Quick Reference Guide: Polysmith 11

## Appending Previously Recorded Studies (Study Creator):

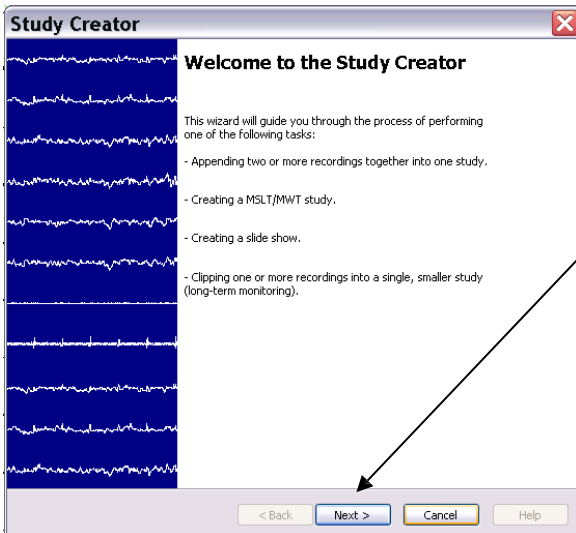
1) Go to the computer that the study was collected on.

2) Double left click on the Polysmith Icon  on the Desktop.

3) The Polysmith window will open. Left click on “Study Creator.”

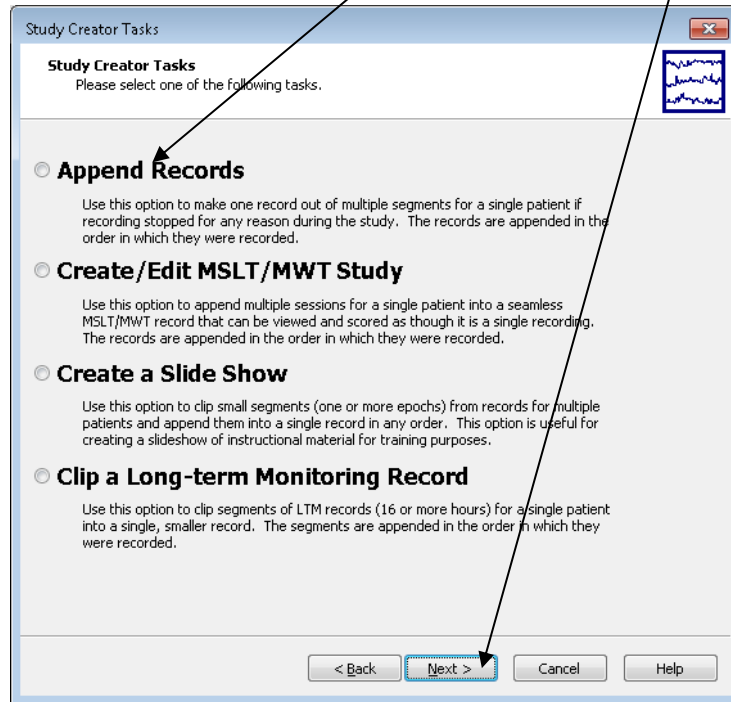


4) The “Study Creator” wizard will appear. Left Click on “Next.”

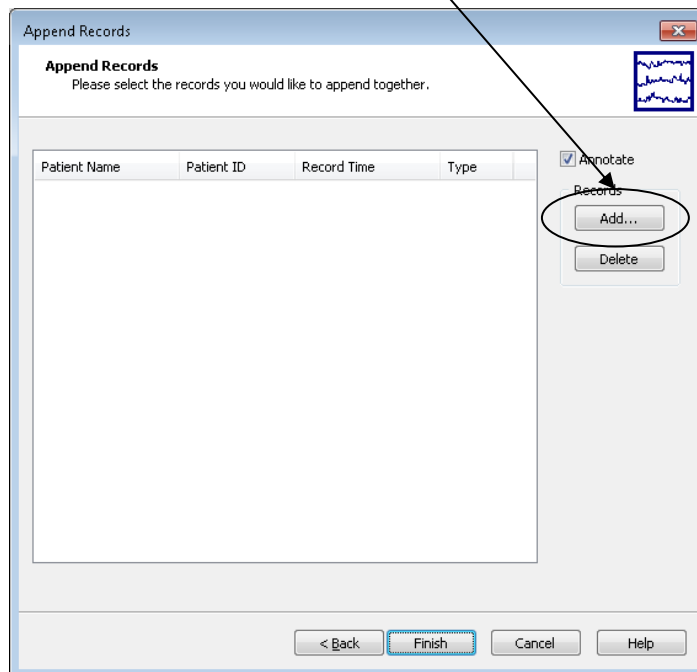


# Quick Reference Guide: Polysmith 11

- 5) The “Study Creator Tasks” window will appear. Select “Append Records” and click on “Next.”



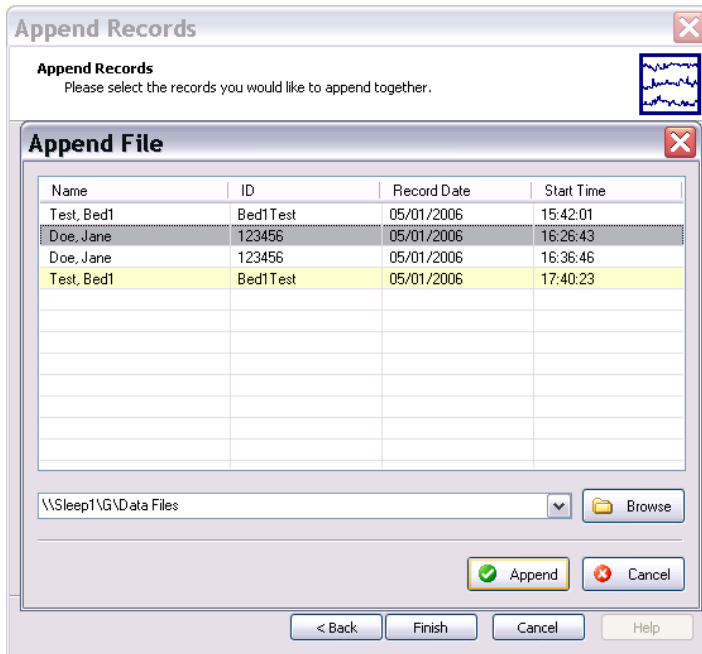
- 6) An “Append Records” window will appear. Left click on “Add.”



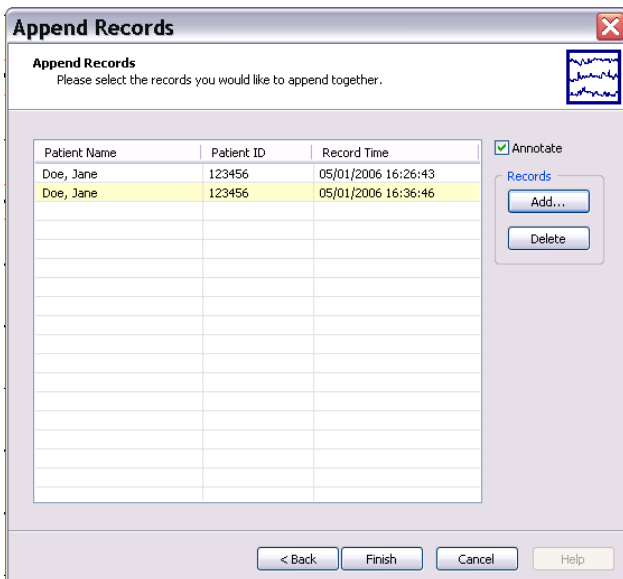


# Quick Reference Guide: Polysmith 11

- 7) The “Append File” window appears. If your study does not appear immediately, click on the “Browse” button and select the appropriate drive location on the appropriate computer. Left click on the first study recording and left click on “Append.”

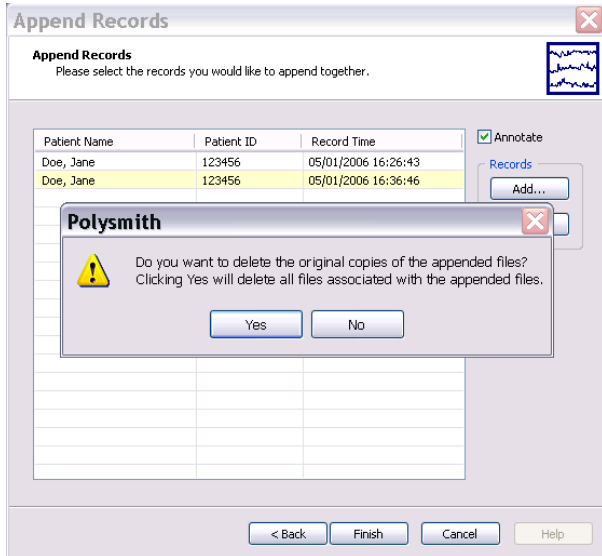


- 8) Repeat steps 8-9 until all appropriate files are selected. (Note: The append feature will only append files that have the same patient ID and names. For this reason, it is important not to re-enter patient information when starting a study or MSLT nap.)
- 9) The selected files will appear in the “Append Records” window. Left click on “Finish” when all files that need to be appended appear in the main window.



# Quick Reference Guide: Polysmith 11

10) Click on “Yes” to delete the original files. Select “No” to keep the original files.



11) The Study Creator will close. Click on “X” on the top right corner of Polysmith to exit out of the program.

12) Verify the newly appended file by opening the patient’s file in Polysmith. The file to select will be the one with the earliest start recording time. (Note: If the “annotate” box is checked, the record will make a log entry for each study appended in the sleep record.)

# Quick Reference Guide:

## Polysmith 11

### **Entering Tech Comments:**

- 1) Left click on any pre-defined tech notes from the event bar. A notation will appear on the live recording.
- 2) OR...left click on "Custom" or press the F12 button on the keyboard. A "Log Event Edit" window will appear. Type up to 255 characters and press the "Enter" button on the keyboard. (Note: Custom comments cannot start with any system comments, i.e. any phrases in green on the event bar. For example, "CPAP not tolerated" cannot be used. An appropriate comment would be to say "Pt. did not tolerate CPAP")

### **Deleting a Tech Comment:**

- 1) Left Click on "Log Events."
- 2) A "Log Event List" window will appear showing all the log events enter thus far.
- 3) Left click on the comment you wish to delete and left click on delete.
- 4) Left click on "Close" on the bottom right corner of the active window.

### **OR...**



- 1) Left click on the "Split Display" icon on the tool bar. This will open the LookBack window.
- 2) Use the slider bar to navigate to the appropriate epoch. (Note: The vertical hash marks at the bottom of the screen indicate log events).
- 3) Right click on the comment you wish to delete, and left click on "Delete Log Event."

### **Adding A Tech Comment after an event has occurred:**



- 1) Left click on the "Split Display" icon on the tool bar. This will open the LookBack window.
  - 2) Use the slider bar to navigate to the appropriate epoch. (Note: The vertical hash marks at the bottom of the screen indicate log events).
  - 3) Right click on the area of the recording you wish to add the event.
  - 4) An options window will appear. Left click on "Add Log Event."
  - 5) You may type in a custom comment under "Description" field or select one from the drop down window under "Predefined Log Events."
  - 6) Left click on "OK." The comment will appear right where you initially right clicked.
- (Note: Adding or moving a system comment will require that the study be rescanned. If you score during the acquisition, you will lose any scoring if you rescan the file.)

### **Printing Out Tech Notes:**

- 1) Verify that the printer is connected and on.
- 2) Left click on "Log Events."
- 3) The "Log Event List" window will appear.
- 4) Left click on Print. Follow the instructions in the Print dialog box.

### **Printing Multi-Trend Plots:**

- 1) Verify that printer is connected and on.
- 2) Left click on "Trend Plots" icon on the Home Ribbon Bar.
- 3) Select the correct scheme by left clicking on the "Page Scheme" drop down window and left clicking on the correct scheme (e.g., Sleep Summary).
- 4) Left click on Print. Follow the Print dialog box