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Training Guide

SurgiNet
Anesthesia
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## Learning Objectives

- Learning Objectives

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## Monitored Values

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Learning Objectives

At the end of this session, class participants will be able to:

- Review Build to Date
- Validate Design
- Select a Case
- Start a Macro
- Document Medications
- Document Inputs and Outputs
- Document Monitored values
- Document Actions
- Document Personnel
- Finalize a case

Tips and Tricks

Application Do’s and Don’ts

- Press and release the right mouse button and see if any of the menu items apply.
- Use your cursor to hover over the buttons to view button names.
- A single mouse click works to execute most commands, but if it doesn’t work, try a double mouse click. **However, double mouse clicks can launch two of the same command, so use with caution!**
- Use the cursor to hover over documented Actions, Meds, etc. to view details. Moving arrow into white box will "hold" the box so that details can be reviewed.
- Downtime: In the case where a downtime occurs lasting more than 30 minutes, the remainder of the case will be documented on a paper Anesthesia Record.
Getting Started

Logging In

Follow this procedure to log into the system:

1. At the Main Menu window, double-click on the SurgiNet Anesthesia icon.
2. At the Cerner log-in window, type your user name in the User Name field.
3. Press the Tab key to move to the next field and type your password into the Password field.
4. Click on the OK button or press the ENTER key.

Logging Out

When you have completed your activities, remember to log out of the application you are working on for security purposes. Logging out can be done in one of the following two ways:

1. If you are exiting the application temporarily, but planning on returning to that computer shortly, click on the Suspend Case option on the task menu. This will return the screen to the log on window and place the cursor in the password field.
2. If you choose the Exit option from the task menu.
Select a Case

The next screen that displays is called the Case Selection screen. The screen will enter the operating room number by default, depending on which room the application is being opened in, and search for the day's cases scheduled for that room.

Highlight the case and click OK to open the case.

If the case cannot be found immediately using the default room, click on the red “X” next to it and click “Search” again to find all of the day’s cases. If it still is not found, enter in different search criteria such as patient name, case number, or date and try to search again.

A blank record can also be generated by clicking on the “Blank Record” button on the lower right corner of the Case Selection Screen. This will allow documentation on a record that will be associated to the case at a later time.

**Policy:** Blank records are only to be opened in Emergency situations, where the case has not yet been scheduled in SurgiNet. Once the case has been entered in SurgiNet, you must go in and associate the patient with the case by clicking on “Task”, then “Associate Case with Record”.

![Select a Case Screenshot](image-url)
After this action, the record will open to the main screen of the application:

There are many areas on the main screen. The following sections will outline how to use these features to document a case.

**Starting a Macro**

After opening the case, a Macro can be started to assist in documentation efforts. A Macro will enter all of the medications, fluids, monitored values, and actions to the case with the click of a button. It will greatly speed up the time it takes to get items onto a record.

1. First, click on the Macros toolbar button.

2. In the next screen, the Macro to be used will be selected from the appropriate category by simply clicking on the button with the name of the Macro.
3. Then the components of the Macro will be seen in the following dialog and components of the Macro can be verified or excluded, depending on the procedure.

4. Click the red check mark in the “Execute” column if you want to exclude any of the components from the macro. If the white box has a red check mark, it will execute with the macro and appear on the record. If the white box does not have a check mark, it will not execute with the Macro.
5. If any of the items included in the Macro need to be modified prior to executing the Macro (e.g. adding a dosage to a medication because it is already known at the time ofMacro execution, or certain Actions are always selected), simply click on the “Edit” icon to the right of the item to get the “Edit” dialog to appear.

Defaults can be set up to give values to these details, or they can be modified here for addition to the record.

6. Once the contents of the Macro are verified, click on the “Execute” button and those contents will be recorded.
7. Here’s what the record will look like after clicking on the “Execute” button.

Notice that all of the medications, gases, fluids (Intakes and/or Outputs), monitors, and actions can now be seen on the record. Monitor values will begin to show up on the graph as they are collected from the devices (note: the little watermark boxes that may appear just indicate that nothing was received from the device at that time).
Medications

Adding Medications

There are several different ways to add medications and their dosages to a record. The steps involved vary a little bit depending on whether or not the medication is already on the record itself.

Meds already on record

1. Simply click on the name of the med itself to insert a dosage at the current time.
2. This will bring up the “Add Medication Administration” dialog. The “New” to the left of the medication name indicates that this is a new administration being added to the record.

3. A dose amount can be entered next and the med will appear on the record after clicking OK.
4. The other fields on this dialog do not have to be filled out in order to get the medication on the record, but if they are not documented now, they will have to be documented later if they are different from the defaults. Route and site have numerous options in their drop-down lists and will default to “IV” and “(None).”

5. The height and weight for a patient can also be changed by clicking on them in this dialog.

6. Units can be changed in the same way by clicking on the units that follow things like height, weight, dose amount, and volume.

7. Note that changing the units in the med concentration will also make the corresponding change in the dose amount, volume, and weight base dose fields.

**Meds not already in record**

1. Click on the Medication toolbar button.

2. This opens the “Select Medication” dialog box. The different colored tabs running across the dialog box above the meds are the categories that medications have been built in.

3. If you can’t find the medication you’re looking for in any of the categories, click on the “Other” button located in the lower left hand corner and you will be able to search the entire formulary.
4. Just click on the category tab, look for the needed medication, and click on the box containing the medication name. This action will bring up the same administration dialog seen previously and below.
### Adding Medications – Bolus vs. Infusion

There are also some different ways to look at the administrations of medications, depending on whether the med is given as a Bolus or as an Infusion.

<table>
<thead>
<tr>
<th>Bolus</th>
<th>Infusion</th>
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<tr>
<td>• Allows for volume to be documented as administered in one single minute.</td>
<td>• Allows for volume to be shown as administered over time.</td>
</tr>
<tr>
<td>• If concentration is correct, as well as weight, entering “Dose amount” or “Volume” will cause the rest of the fields to be calculated.</td>
<td>• If concentration is correct, as well as weight, entering “Dosing infusion rate” or “Pump infusion rate” will cause all other fields’ values to calculate over time.</td>
</tr>
<tr>
<td>• Route and Site are not required fields and will default to “IV” and “(None),” respectively.</td>
<td>• Route and Site are not required fields and will default to “IV” and “(None),” respectively.</td>
</tr>
<tr>
<td>• The blue triangle symbol (a.k.a. delta) in this dialog allows rate changes to be made. Click on the blue delta and then click in the time frame that the rate needs to be changed in. Enter the correct rate in the appropriate field and a blue separator will appear in the bar, indicating a change was made.</td>
<td>• The red circle allows the stop time of the infusion to be entered. Just click on the red circle and then click at the proper time to indicate the conclusion.</td>
</tr>
<tr>
<td>• The red X will delete any rate change indicators that might be present in the bar.</td>
<td>• The red X will delete any rate change indicators that might be present in the bar.</td>
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Modifying Medications

Via the toolbar

1. Click on the Medication toolbar button.

2. This brings up the medication dialog box – notice how the first tab seen is the "Current" tab. This tab contains all of the medications that have currently been recorded on the anesthesia record.

   ![Image of the medication dialog box]

   1. To modify any of the medication administrations, click on the Modify Admin radio button or you can also mouse on the dot to the right of the dose, right click and select “Modify Medication”.

   ![Image of the modified medication dialog box]

   Notice how the dialog changes to show just the “Current” tab and the administered medications. **This is a very important step in modifying medications. If the "Modify Admin" radio button isn’t clicked, there is a high probability that a medication will simply be added again.**

3. Next just click on the medication that needs to be modified and the administration dialog will appear.
4. Change the “Dose amount” to the correct value and click OK to get the medication changed on the record.

**Via the record**

1. Since the medication that needs to be modified will already be on the record, just click on the dosage that needs modification.

2. This will bring up the same type of modification dialog shown above where the changes can be made to the “Dose amount,” “Volume,” or times.
Deleting Medications

Removing Administrations - via the toolbar

1. Click on the Medication toolbar button.

2. This brings up the medication dialog – once again, notice how the first tab seen is the “Current” tab. This tab contains all of the medications that have currently been recorded on the anesthesia record.

3. To delete any of the medication administrations, click on the Remove Admin radio button.

Notice how the dialog changes to show just the “Current” tab and the administered medications. This is a very important step in removing medication administrations. If the “Remove Admin” radio button isn’t clicked, there is a high probability that a medication will simply be added again.
4. Click on the medication that needs an administration removed and the following dialog box will appear.

![Medication Administration Screen]

*** Note: If a medication only has 1 administration, this dialog box will not appear. The medication will be removed from the record entirely after clicking on the name of the med.

5. Click on the administration of the med that needs to be removed.

![Medication Administration Screen]

6. Click OK and that instance of the med will be removed from the record.

Removing Administrations - via the recorded meds

2. If the medication has already been documented on the record, just click on the dosage that needs to be removed.

3. On the following dialog, just click the “Remove Admin” button in the lower left hand corner.

4. You can also mouse on the dot to the right of the dose, right click and select “Remove Medication”.

![Medication Administration Screen]
This will remove the corresponding dosage from the record, and if it is the only dosage recorded for that med, it would completely remove the medication from the record.

**Removing Medications**

*When clicking on the Medications toolbar button, there is yet another option of “Remove Medication” shown. Clicking this option and then selecting a medication will remove all administrations of a medication from the record, whether there were multiple dosages given or not.*
Intakes and Outputs

Adding Intakes

There are several different ways to add intakes, outputs, and their volumes to a record. The steps involved vary a little bit depending on whether or not the fluid is already on the record itself.

Intakes already on record

1. If a fluid is already on the record, perhaps via a macro, just click on the name of the fluid to start another bag at the current time interval.

2. This will open up the “Fluid Intake” dialog as seen below. The “Start Bag” button just needs a click to get the bag started at the time represented in the time bar. “Volume rate” and “Weight based rate” are not required but will help in calculating volume given over time.

3. Route and Site are not required and should default to “IV” and “(None),” respectively.
Intakes not already on record

1. Click on the Intake toolbar button

2. This will bring up the Fluid Selection dialog, and it is very similar to the Medication Selection dialog.

3. Simply find the desired fluid by looking through the different tabs above the fluids and then click on the button containing that fluid. That will bring up the Fluid Intake dialog seen previously and below.
4. Just click on the “Start Bag” button to get it going. Route, site, and the different intake routes do not have to be filled out in order to get the bag started.

5. Once a fluid has been running, it is also very easy to start another bag of the same fluid. If you click towards the end of a fluid’s bar, it will bring up the same “Fluid Intake” dialog but there will be another button towards the bottom – “Start Next Bag” – that can be clicked to get another bag started.

**Modifying Intakes**

**Via the toolbar**

1. Click on the Intake toolbar button.

2. Click on the “Modify Admin” radio button.
3. The category tabs will disappear, leaving only the "Current" tab. Click on the name of the fluid that needs modification.

Note: If there are multiple administrations, this dialog will appear to force a selection of the necessary admin.

4. Change the values in any of the fields, such as "Volume rate" or "Weight based rate," if necessary.
5. Change the times by dragging and dropping the green section of the bar to the correct time interval.
6. Clicking on the blue delta, clicking again within the yellow bar, and then entering the correct fluid rates when the individual sections of the bar are highlighted can change the rate at which the fluid was administered.

One must be highlighted and OK must be clicked to get the modification screen (left) to appear.
Via fluids already on the record

1. If a fluid has already been documented, click on the green starting mark or anywhere along the white bar to bring up the modify dialog.

2. The same modification dialog will appear and changes can be made to any of the fields – bag volume, volume rate, weight based rate, etc.
Deleting Intakes

Removing Intakes – via the toolbar

1. Click on the Intake toolbar button.

2. Click on the “Remove Admin” radio button.

3. Click on the medication that needs to have an administration removed, and the corresponding value will be removed from the graph. If there are multiple administrations of the same fluid, the following screen shot will appear.

Just highlight the one that needs to be removed, click OK, and it will be removed from the record.
Removing Intakes – via recorded fluids

1. If a fluid has already been documented, click anywhere along the bar to bring up the dialog.

2. Click the “Remove Bag” button in the lower left hand corner to get rid of the administration.

3. The administration is removed from the record, and if there was only 1 bag hung for that particular fluid (like for the Lactated Ringers in these screen shots), the entire fluid is removed from the record.

Removing Intakes

1. Click on the Intake toolbar button.

2. Click on the “Remove Intake Fluid” radio button.

3. Then click on the fluid that needs to be removed from the Current tab and that fluid will disappear from the record.

Adding Outputs

The addition of outputs occurs very similarly to that of intakes, there are just many less available fields (i.e. rates, duration, etc.) to fill in.
Outputs already on record

1. If an output is already on the record, perhaps via a macro, just click on the name of the output to enter another value at the current time interval.

2. This will open up the “Fluid Output” dialog as seen below. The new output volume just needs to be entered and the time verified, and that output will be seen on the graph.

3. Site is not required and should default to "(None)."
Outputs not already on record

1. Click on the Output toolbar button

   ![Image](image_url)

2. This will bring up the Output Selection dialog box, which is very similar to the Intake Selection dialog box.

   ![Image](image_url)

3. Simply click on the output that needs to be documented and it will bring up the Fluid Output dialog box to enter in the output amount.

4. Just click OK and that volume will be entered onto the record at the time indicated.

Modifying Outputs

Via the toolbar

1. Click on the Output toolbar button.

   ![Image](image_url)
2. Click on the “Modify Output” radio button.

3. The category tabs will disappear, leaving only the “Current” tab. Click on the name of the output that needs modification to bring up the next screen.

Note: If the output has already been documented numerous times, this dialog will appear to force a selection of the necessary admin.

4. Change the volume value in the output field, click OK, and that change will be represented on the record.
Via Outputs already on the record

1. If an Output has already been documented, click on the white dot marking its documentation on the record.

2. The same modification dialog will appear and changes can be made to the volume of the output before clicking OK to see the change on the record.

Deleting Outputs

Removing Outputs

1. Click on the Output toolbar button.

2. Click on the “Remove Output Fluid” radio button.
3. Then click on the output that needs to be removed from the Current tab and that output will disappear from the record.

**Monitored Values**

The bedside medical devices play a large role in the documentation of an anesthetic record, so the values that these devices are monitoring are very important to the application. Most of the monitored values that need to be recorded during the case will probably be started via a macro at the beginning of the case. However, there is always the possibility that a monitor and its values will need to be added to the record.

**It is a good idea to review the Monitored Values that are coming in via BMDI every 30 to 60 minutes to make sure the values are flowing into the record correctly!**

**Adding Monitors**

1. Click on "Document" in the menu bar.
2. Click on “Monitors” when the menu appears to pull up the Select Monitors dialog.

3. The list on the left shows the available device parameters to select from. The list on the right side shows those parameters that are currently being monitored.

4. Click on values in the “Available Parameters” list and click the “Move” button to move them to the “Selected Parameters” list. This can also be done in the reverse direction if you want to take monitored values off of the record.

5. The red checks marks can also be used to turn monitors on and off. If there are values that don’t need to be displayed during a portion of the case, the box containing the red check mark can be clicked to remove the check mark and turn the monitor off. This might be needed during the bypass portion of a cardiac procedure, for example.

6. Symbols are next to those parameters that have been designated as graphical values. If a parameter doesn’t have a symbol next to it, it will appear in the “Monitors” section of the record. The following screen shot shows the differences in the sections.
Modifying Monitored Values

There is always a possibility that the values that populate the electronic record are erroneous or incorrect due to a number of different reasons. Because this interference or artifact is possible, there are ways to adjust the values on the record so that they more accurately represent the patient’s vitals.

1. In the Monitors section, it is easy to just click on any of the values displayed.

2. As an example – let’s look at the respiratory rate value of 89 that is seen above. 89 is a little high for that value, so it needs to be looked at. If the value of 89 is clicked on, the following screen appears.

3. Just enter the correct value to replace the 89.

4. Click OK and that value will take its place on the record.
5. If one of the graphical values (e.g. blood pressure, heart rate, etc.) needs to be adjusted, click on “Document” in the menu bar.
6. Then move to “Value” in the menu that appears.

7. The next screen that appears allows users the ability to modify all of the monitored values that have been recorded for the case.

8. Just click on the parameter’s value that needs to be modified and make the change by typing in the correct value. This is also an excellent way to document several monitor values that need to be manually documented vs. BMDI.
9. The value interval can be changed by clicking on the 1, 5, 10, and 25 buttons above the main part of the sheet. This can help narrow down or expand the values so that the ones needing changes can be located.
10. Just click OK and it will appear in the record as the correct value.

Other functions can be carried out using this dialog, if necessary:
- Details – click on any of the values and then click the Details button on the left and you can see the main dialog for that specific value where the value and time can be changed or a comment can be added for that value.
- Pull Values – click on the gray box to the left of any of the monitor names and then click “Pull Values” and this will add all of the values that have been collected so far by the device. An example of when this might be used: A temperature probe was attached early in the case but the “Temperature” monitor was not selected for the record. While it might not be displayed on the record, the application is still collecting all values that are tied to this parameter. So when the user realizes that he/she needs to add “Temperature,” pulling the values will display all of them on the graph.
- Chart/Unchart – this allows the user to highlight multiple cells on this screen and then select whether or not they should be included in the permanent record.
- Add/Remove Monitors – these buttons allow the user to add monitors to the record without having to exit this screen and return to the menu and dialogs mentioned above in the “Monitors” section.
Actions

Actions will make up a majority of the anesthesia record outside of Medications and Fluids. Actions might include things like Times, Positions, Airway Management, Procedures, and Notes.

There are many Actions that have details built behind them, and there are also several Actions that do not have any details.

Using the Action List

1. Click on the Actions toolbar button.

2. The following list of Actions will appear and there are numerous ways to view the Actions that have been documented.
3. When looking at the actions with the view set to “Date/Time,” it displays all of the actions that have been documented on the record in the order of the time associated to the documentation.

4. Clicking on the Edit button will allow that action to be edited in the necessary way. Clicking on the Delete button will cause that action to be removed from the record and this list of actions.

5. If an Action has details documented with it, those details can be seen in the right hand pane of this dialog and will make viewing what has been documented a lot easier.

6. The Actions will show in the Action Bar at the bottom of the screen and will be represented as symbols. If a symbol is associated to an action, that symbol will show. If the action does not have a symbol associated to it, the red circle with a white X will appear.
7. If there are any Actions that need to be added to the record while the view is set to display by Date/Time, click on the <Add> at the bottom of the list to highlight the row, then click on the Document button.

8. When you click Document, the following dialog box will appear – it is very similar to the medication, intake, and output dialog boxes.

9. The first tab will show what has currently been recorded if anything has been. The other tabs can be clicked on to find the desired Action, and then that Action box can be clicked to add it to the record.

10. The Action List can also be viewed by clicking on the Category button. This will show all of the available action categories and the actions that have been documented beneath them. It will also indicate if and when they have been documented with the date and time listed in the column on the right.
11. If an action needs to be added to the record (like one of the ones listed as “Not Documented”), simply click on that action to highlight it and then click on the gray Document button that appears.

12. Then simply edit the action dialog box that appears and it will be added to the record.

13. If fields have been made mandatory on actions, that action appears in the list with a red asterisk by it. When viewing the actions by “Completion,” those actions that have required fields not yet documented will be separated from the rest of the “completed” actions.

14. Simply click on the Edit button and fill in the required fields and that action will then fall into the “Complete” category of actions.
Personnel

Personnel will be added to the record to show how many providers have been involved in a particular case and the times they were involved. Personnel are seen on the record in the Action Bar area, or can also be viewed in a separate dialog box by clicking on the Personnel toolbar button.

Adding Personnel

1. Click on the Personnel toolbar button

2. Click on the “Add” button in the lower left hand corner.

3. Find the desired provider in the following dialog.

4. Click on the provider when found to add him or her to the list.
5. The dates and times can be adjusted in this dialog to get the times correct. Just click on the time, make sure that the cursor is under the part that needs to be changed, and then use the up/down arrows to adjust.

6. Personnel can also be removed in this same dialog – just highlight the one to delete and click on the "Remove" button.

7. To add a non-anesthesia Provider, click the "Other" button on the bottom left and a "Select Personnel" box will open.
8. You can either click the Binoculars to find the provider, or start typing their name and the system will find them.

Finalize a Record

Records will need to be finalized at the end of a surgical procedure in order to get the data written to the patient’s record. It will also give the anesthesia provider an opportunity to print the record and complete the details of any medications, fluids, or actions.

Finalizing the Case

1. Click on Task in the menu bar.

** Most cases will be finalized in PACU when the final set of vital signs in documented in the Post Op Note. When getting ready to leave the OR or Procedure Room click “Task”, then “Suspend Case”. Once in the PACU, launch the application, find your case, enter data in the Post Op Note, then Finalize the case as described below. DO NOT FINALIZE THE CASE UNTIL YOU HAVE COMPLETED YOUR DOCUMENTATION!
2. Then highlight and click on Finalize Case when the menu appears.

![Image of the screen with a section highlighted for Finalize Case]

3. This will bring up the Finalize dialog that displays the deficiencies and signatures on the record.

![Image of the Finalize dialog]

4. If there are any Fluids that need stop times or Actions that have required fields on them, they will be seen in the Deficiencies section. Click on the Edit icon to edit the Fluid or Action and the Fluid/Action dialog will appear. Once the deficiency is accounted for, that item will disappear from the finalize dialog.

5. Clicking in the Ignore checkbox will ignore the deficiency and allow finalization to continue.

Remember...make sure that you have entered yourself into the record. If an Attending is supervising the Fellows or Residents, make sure they have been entered into the record BEFORE you Finalize!!!
6. When all deficiencies are taken care of, users must “Sign” the record. Click on the Sign button in the dialog first to get the Cerner splash screen to appear.

7. Enter in the user name and password for the provider wishing to sign the record and click OK to show the updated finalize dialog.

8. Click in the “Print record” checkbox if you would like to open up the print dialog as you finalize, and click on the Finalize button. The focus will then return to the main screen of the record, and the word “Finalized” will be seen with the case number at the top of the screen.

9. The record will also be put into a “read-only” phase so that nothing can be modified on the record.

Policy: If for some reason documentation needs to be added or removed AFTER the case has been finalized, the provider must seek out a Super User and/or Dept. Chair, who are the only providers that are permitted to “unfinalize” a record. Also, you cannot finalize a record that has not been associated to a patient. The document does not write to the patient’s medical record until it is finalized.