

# EndoVR™

## User Guide





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# SYSTEM SPECIFICATIONS

Hardware	
Equipment	Two 22" flat LCD monitors Haptics device Scope holder Dual foot pedal
Dimensions	40.5" W x 35" D x 72" H (Adjustable) 103cm W x 89cm D x 183cm H (Adjustable)
Weight	245 lb (111 kg)
Electrical	100-120 V, 50-60 Hz, 10A 200-240 V, 50-60 Hz, 5A
Storage Temperature	-40°C to +65°C (-40°F to +149°F)
Storage Humidity	20% to 80% without condensation
Operating Temperature	10°C to 32°C (50°F to 90°F)
Operating Humidity	20% to 80% without condensation

# CAUTIONS AND WARNINGS

Please read and understand these cautions and warnings before you begin using the simulator.

## Operations

- Do not operate your equipment with any covers removed.
- Do not use your equipment in a wet environment. Protect equipment for liquid intrusion.
- Do not put any object on top of the bottom platform. Movement of the lift mechanism can cause crush hazard, resulting in possible bodily injuries and damaged equipment.
- Do not jam the motor lift mechanism onto an object. This is a misuse and subjects the motor to burn out. It can also result in possible bodily injuries and damaged equipment.

## Ergonomics

- Tip-over hazard: Do not move your equipment without fully lowering the lift mechanism. Failure to do so can result in possible bodily injury and damaged equipment.
- Improper or prolonged keyboard use may result in injury.
- Viewing a monitor screen for extended period of time may result in eye strain.

# TABLE OF CONTENTS

CAE Healthcare End-User License Agreement.....	i
System Specifications.....	vii
Cautions and Warnings .....	viii
Operations .....	viii
Ergonomics.....	viii
Introduction .....	1
Equipment Overview .....	2
EndoVR Device .....	2
Monitor Pole and Monitor Arms.....	3
Monitors .....	3
Computer.....	3
Additional Equipment.....	4
Before Using the Simulator .....	4
Using the Simulator.....	5
Powering On the Simulator.....	5
Adjusting the Height.....	6
Starting the Software .....	7
Interface Overview .....	8
Selecting a Simulation .....	12
Reviewing the Didactic Content .....	15
Changing User Parameters.....	27
Running a Simulation .....	29
Selecting a Scope .....	32
Changing a Scope.....	34
Using the Scope .....	36
Selecting an Accessory Tool.....	37
Connecting an Accessory Tool to the Simulator .....	38
Using the EBUS-TBNA Accessory Tool .....	40
Using the Upper GI and Lower GI Accessory Tool .....	41
Using the Pedals .....	43
Ending a Simulation.....	43
Viewing Results .....	45
Viewing Personal Data.....	46
Viewing Usage Summaries .....	46
Viewing Reports .....	47

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Printing Data from the Simulator.....	50
Printing Data to a Network Printer .....	50
Printing Data to a PDF File.....	52
Modifying Language Preferences.....	54
Adjusting the Volume .....	55
Hiding the Available Tasks Panel .....	55
Exiting the Software .....	56
<b>Appendix A - Module Descriptions.....</b>	<b>57</b>
Module Instruments and Required Equipment .....	58
Bronchoscopy.....	58
Lower GI.....	59
Upper GI .....	60

# INTRODUCTION

Welcome to the CAE Healthcare EndoVR Simulator user guide. This guide provides instructions on how to use the EndoVR simulator.

The EndoVR simulator provides a safe, virtual environment for learners to practice endoscopic techniques and skills. Learners can range from medical students to licensed medical professionals.



***The EndoVR Simulator***

Preprogrammed tasks and courses with didactic content, real-time simulation haptics and post-simulation evaluation metrics help create the comprehensive training experience for learners. Through the combination of these tools, learners begin to recognize anatomical structures and landmarks, intervention approaches and complication management. Learning within a virtual patient environment offers both students and faculty the opportunity to practice safely.

# EQUIPMENT OVERVIEW

The standard equipment for the EndoVR simulator includes all the necessary equipment for basic use of the simulator. The items listed in the table below are shipped with the simulator.

Standard Equipment
EndoVR Device
Monitor Pole and Monitor Arms
Monitors
Computer

## EndoVR Device

The EndoVR device comes as a single entity. The haptic device (including external anatomy plates), keyboard, mouse and lifting mechanism are all part of the EndoVR device. The device is secured to a four-wheel platform for convenient mobility when storing the simulator.



**The EndoVR Device**

## Monitor Pole and Monitor Arms

The monitor pole is shipped separately from the EndoVR device and requires some assembly before the simulator can be used. Two plates (one front and one back) connect to the EndoVR device to create the monitor pole. The monitor arms are attached to the monitor pole front plate.

## Monitors

Two flatscreen monitors are provided with the purchase of an EndoVR simulator. The mounting plates to mount the monitors to the monitor arms are located on the back of the monitors.

## Computer

The computer for the EndoVR simulator is shipped inside the EndoVR device. To access the computer, press on the access door located on the side of the simulator.



*The Computer Access Door*

# Additional Equipment

For modules, which are sold separately, users must purchase additional equipment to fully utilize the curriculum and simulation procedures.

<b>Bronchoscopy Equipment</b>
Scope Head
Scope Tube
EBUS-TBNA Accessory Tool

<b>Lower GI Equipment</b>
Scope Head
Scope Tube
Accessory Tool
Foot Pedals

<b>Upper GI Equipment</b>
Scope Head
Scope Tube
Accessory Tool

## Before Using the Simulator

Proper operation of the EndoVR simulation requires correct configuration. Before setting up the system, keep in mind these basic guidelines:

- Read and understand the Cautions and Warnings in the beginning of this User Guide.
- Do not power on any components until instructed in the text.
- Do not install any Windows updates or anti-virus software when connecting to the network.

# USING THE SIMULATOR

The EndoVR simulator integrates replica gastrointestinal and bronchoscopic scope heads, accessories and pedals with an interactive software to provide learners with a comprehensive and quantitative training experience. Administrators and trainers are responsible for setting up the user accounts, managing the learners' curriculum and reviewing learners' results to identify areas for improvement.

**NOTE:** For optimal use, no other software programs should be open while the simulator software is running.

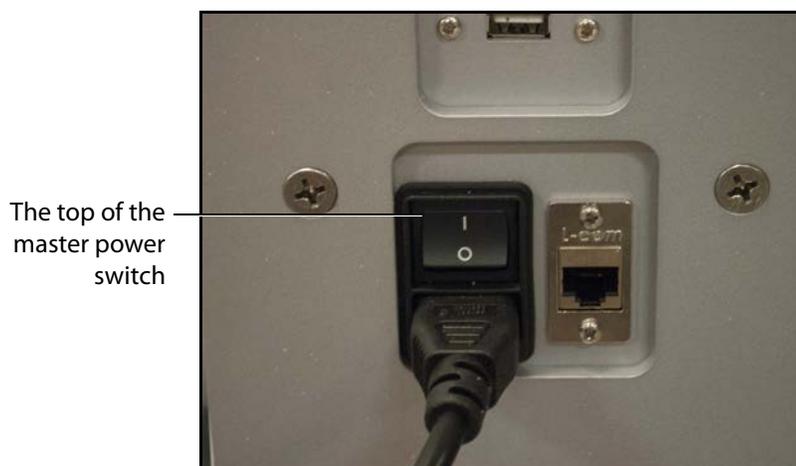
**NOTE:** To use the printing functions in the software, a network connection must be established. For further assistance, contact your system administrator.

## Powering On the Simulator

Before starting the software, ensure that the simulator is powered on. In the case that the simulator is not powered on, follow the instructions below.

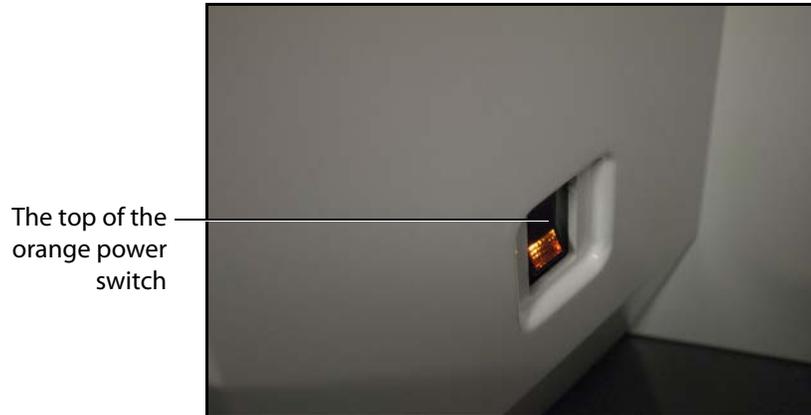
To power on the simulator:

- a. Ensure the top of the master power button, located on the back of the simulator, is pressed in.



*The Master Power Switch*

- b. Press the top part of the orange power switch located on the back right side of the simulator.



***The Power Switch Illuminated***

The switch illuminates when the simulator is powered on.

## Adjusting the Height

It is important to ensure the simulator is at the appropriate height for the learner to effectively perform the procedures. The EndoVR simulator has arrows that allow the learner to adjust the height as needed.

To adjust the height of the simulator:

- a. Press the up or down illuminated green arrow buttons located on the front of the lifting mechanism.
- b. Hold the up or down arrow button for a few seconds to activate the lift mechanism. The device begins moving up or down.

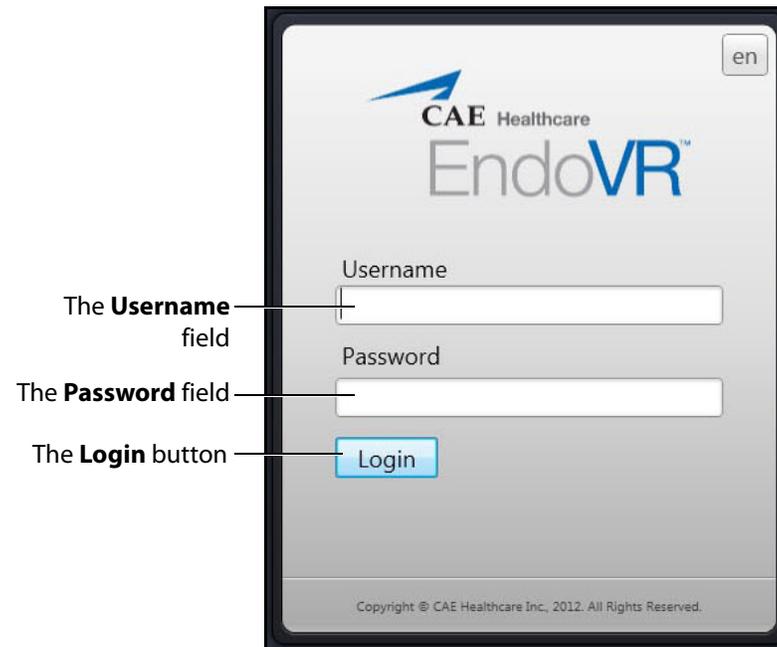


***The Lifting Mechanism***

- c. Release the button when the desired height is achieved.

## Starting the Software

Once the EndoVR simulator is powered on, the software launches automatically and the Login screen appears.



**The Login Screen**

To log in to the software:

1. Enter the assigned username in the **Username** field. To log in as a guest, enter *guest*.  
**NOTE:** Any tasks performed while using the guest login will only be recorded in the guest account.
2. Enter the assigned password in the **Password** field. To log in as a guest, enter *guest*.
3. Click **Login**.

The EndoVR Home screen appears.

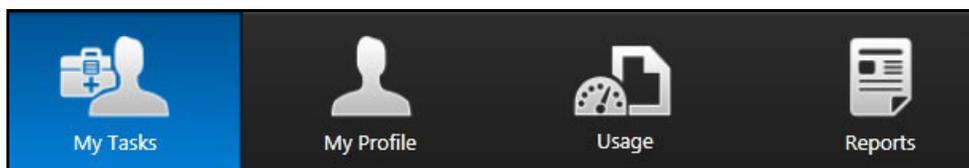


**The Home Screen**

From the Home screen, users can select and start a simulation exercise, view personal data and print usage summaries and reports. Users are also able to modify language preferences and access the user guide from the Home screen.

## Interface Overview

The EndoVR user interface contains a dashboard of icons that represent the tools available to users.



**The Icon Dashboard**

When an icon is selected, the icon will appear blue and the associated content will appear in the main screen on the interface. The left panel contains is a list of options for users.

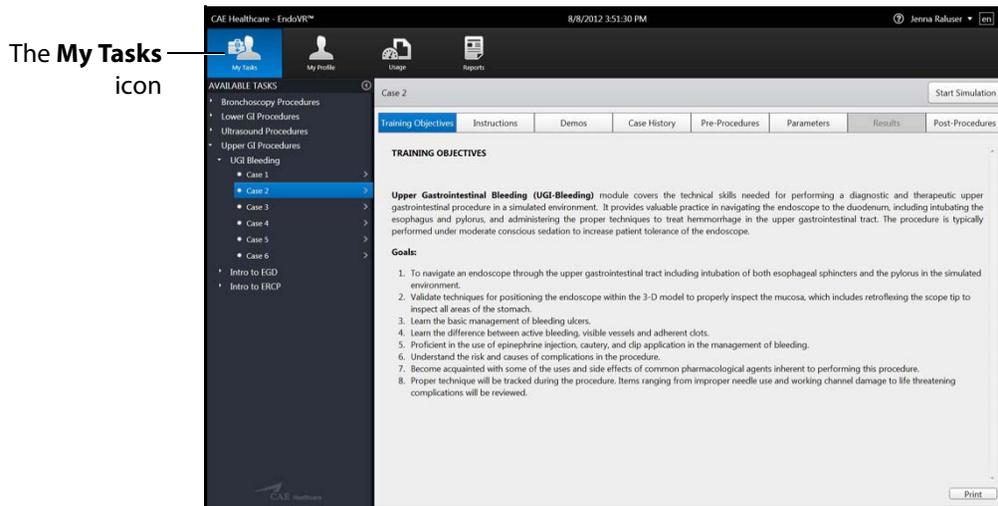
The **My Tasks** icon is selected by default and referred to as the Home screen when users first login to the software.



**The Home Screen**

## My Tasks

From the My Tasks screen, users can choose a simulation, review didactic content, run a simulation and review results.

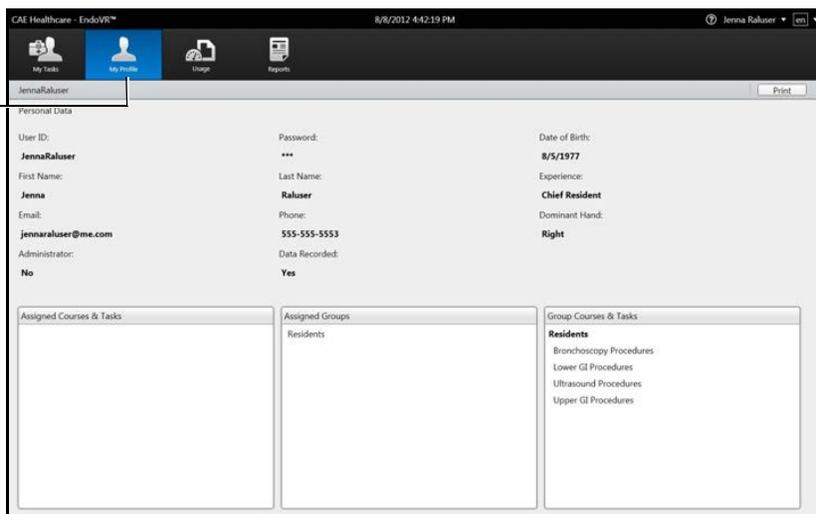


**The My Tasks Screen**

## My Profile

From the My Profile screen, users can review their personal data including username, registration and contact information and privileges.

The **My Profile** icon

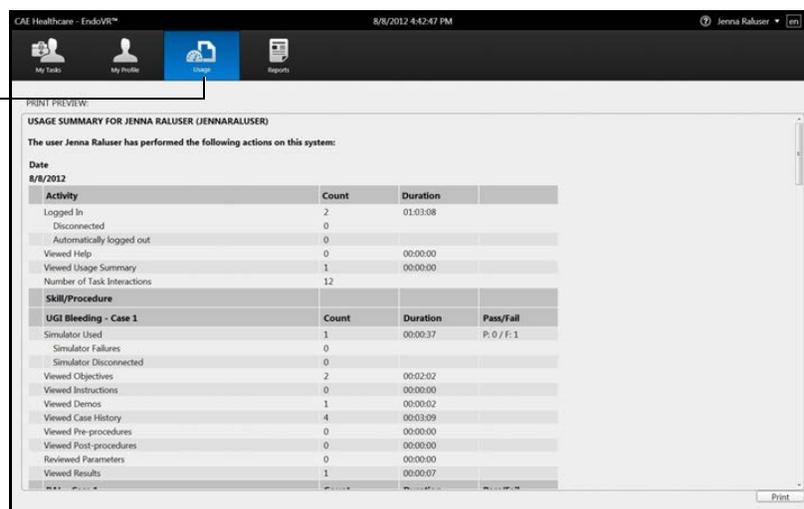


**The My Profile Screen**

## Usage

From the Usage screen, review and print their usage summaries for completed simulations.

The **Usage** icon

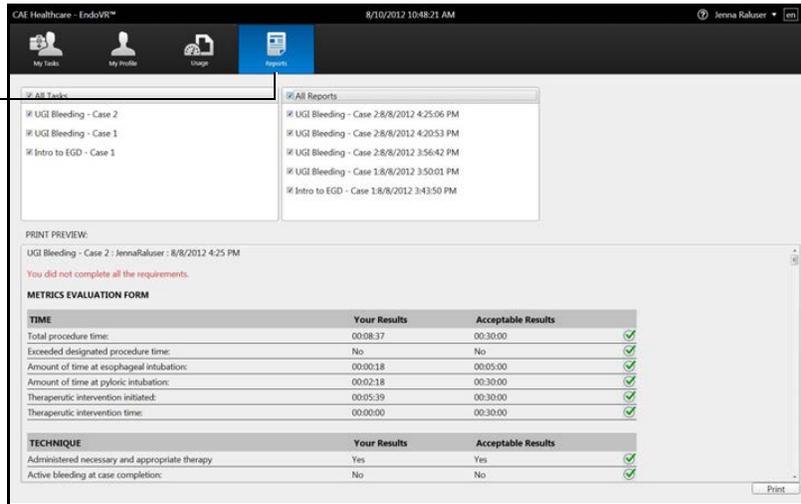


**The Usage Screen**

## Reports

From the Reports screen, users can review and print reports for completed simulations.

The Reports icon



CAE Healthcare - EndoVR™ 8/10/2012 10:48:21 AM Jenna Raluser

My Tasks My Profile Image Reports

All Tasks

- UGI Bleeding - Case 2
- UGI Bleeding - Case 1
- Intro to EGD - Case 1

All Reports

- UGI Bleeding - Case 2/8/2012 4:25:06 PM
- UGI Bleeding - Case 2/8/2012 4:20:53 PM
- UGI Bleeding - Case 2/8/2012 3:56:42 PM
- UGI Bleeding - Case 1/8/2012 3:50:01 PM
- Intro to EGD - Case 1/8/2012 3:43:50 PM

PRINT PREVIEW:

UGI Bleeding - Case 2 : JennaRaluser : 8/8/2012 4:25 PM

You did not complete all the requirements.

**METRICS EVALUATION FORM**

TIME	Your Results	Acceptable Results	
Total procedure time:	00:08:37	00:30:00	✓
Exceeded designated procedure time:	No	No	✓
Amount of time at esophageal intubation:	00:00:18	00:05:00	✓
Amount of time at pyloric intubation:	00:02:18	00:30:00	✓
Therapeutic intervention initiated:	00:05:39	00:30:00	✓
Therapeutic intervention time:	00:00:00	00:30:00	✓

TECHNIQUE	Your Results	Acceptable Results	
Administered necessary and appropriate therapy	Yes	Yes	✓
Active bleeding at case completion:	No	No	✓

Print

**The Reports Screen**

## Selecting a Simulation

Each module in the software contains a specially-developed curriculum to test learners on their ability to perform acute endoscopic procedures. Based on the courses and tasks assigned to the learner by the administrator, the training experience is customized to help the learner meet the necessary educational objectives.

**NOTE:** Learners only have access to the curriculum assigned to them by the administrator.

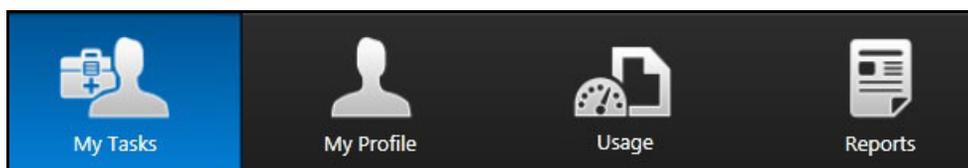
To select a simulation:

1. Ensure the **My Tasks** icon is selected and the Home screen is displayed.



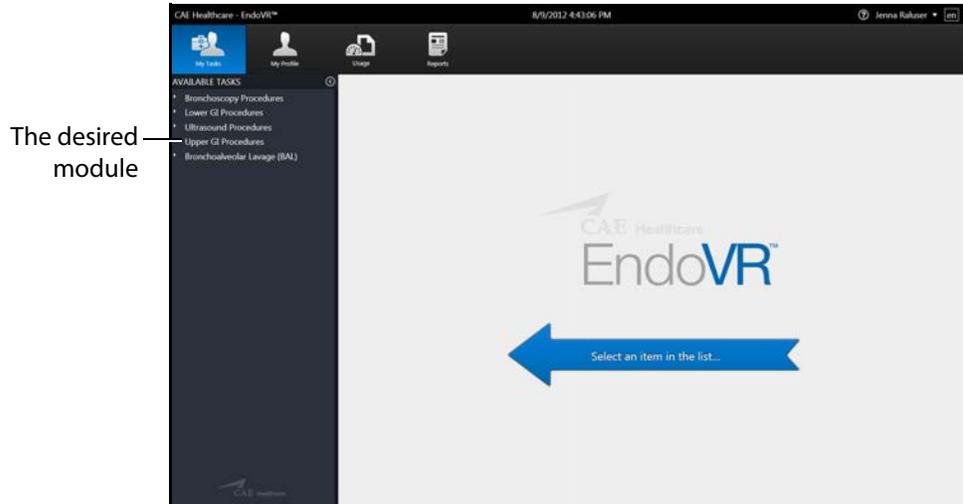
*The Home Screen*

**NOTE:** When selected, the icon on the dashboard is highlighted blue.



*The Icon Dashboard*

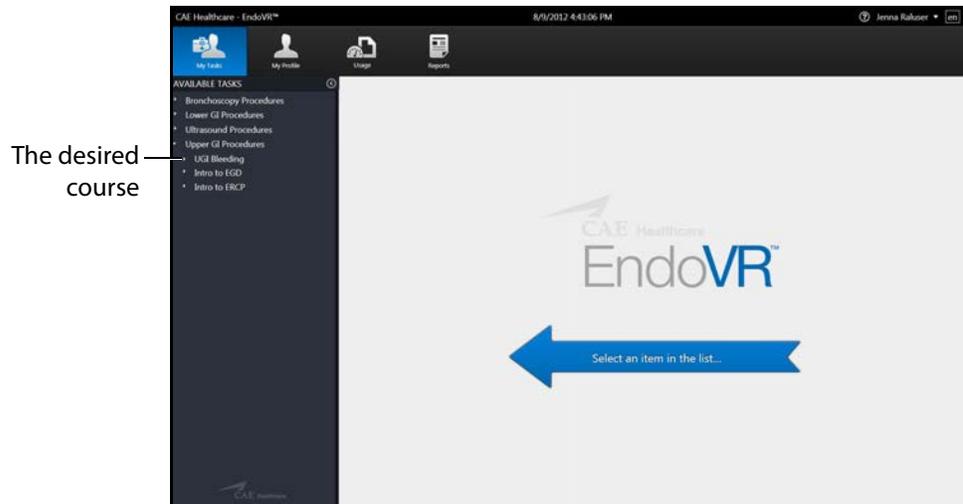
- From the **Available Tasks** panel on the left side of the screen, click the desired module.



**The Home Screen**

A list of available courses appears.

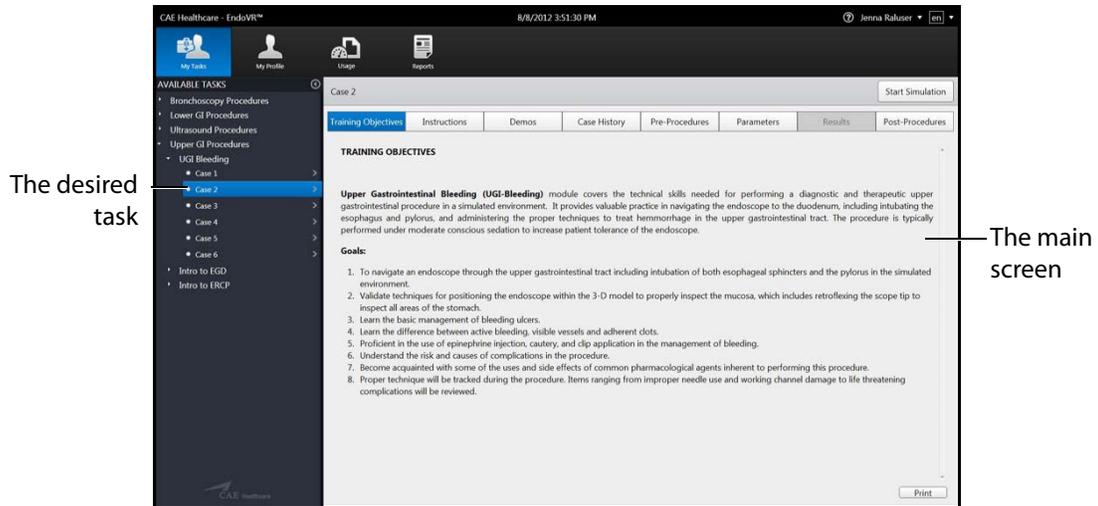
- Click the desired course.



**The My Tasks Screen**

A list of available tasks appears.

4. Click the desired task.



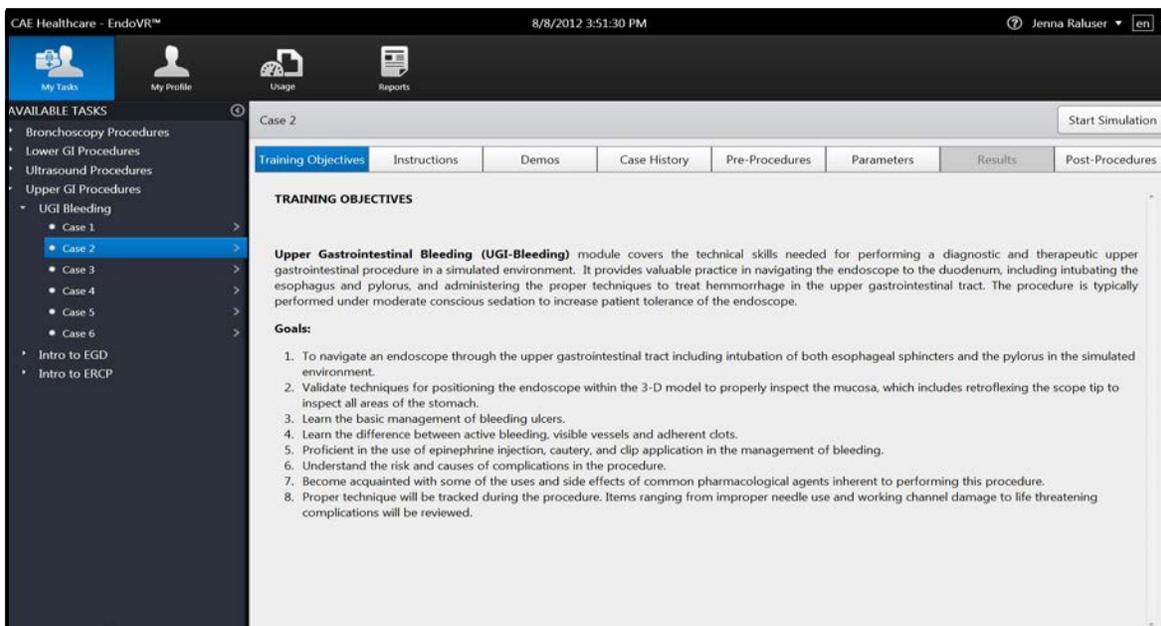
**The My Tasks Screen**

The didactic content appears in the main screen of the software.

## Reviewing the Didactic Content

Before beginning a simulation, users should review the didactic content for the selected procedure. The didactic content contains information users need to know before and after performing a specific procedure.

The didactic content for tasks may include Training Objectives, Didactics, Instructions, Case History, Diagnostic Images, Pre-Procedures, Parameters and Post-Procedures. The Results screen is only accessible after a task is completed. The content included in each module varies depending on the procedure.

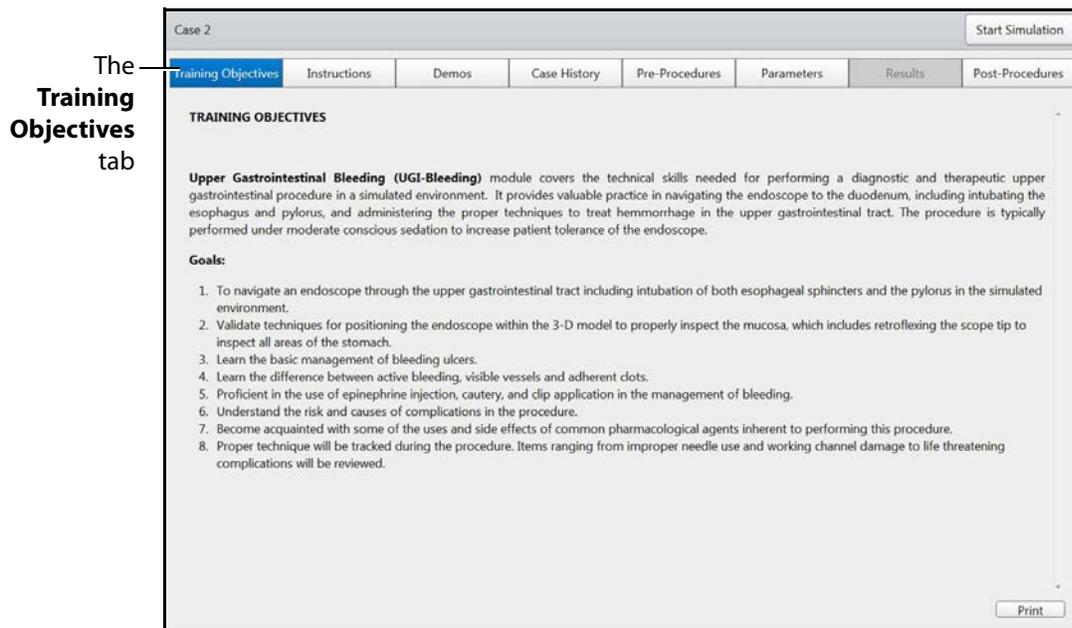


**Didactic Content Screen for Upper GI Module**

**NOTE:** Parameters can only be changed for specific tasks when the user parameters are unlocked by an administrator.

## Training Objectives

To access the Training Objectives screen, click the **Training Objectives** tab. When selected, the tab appears blue and the Training Objectives screen appears.

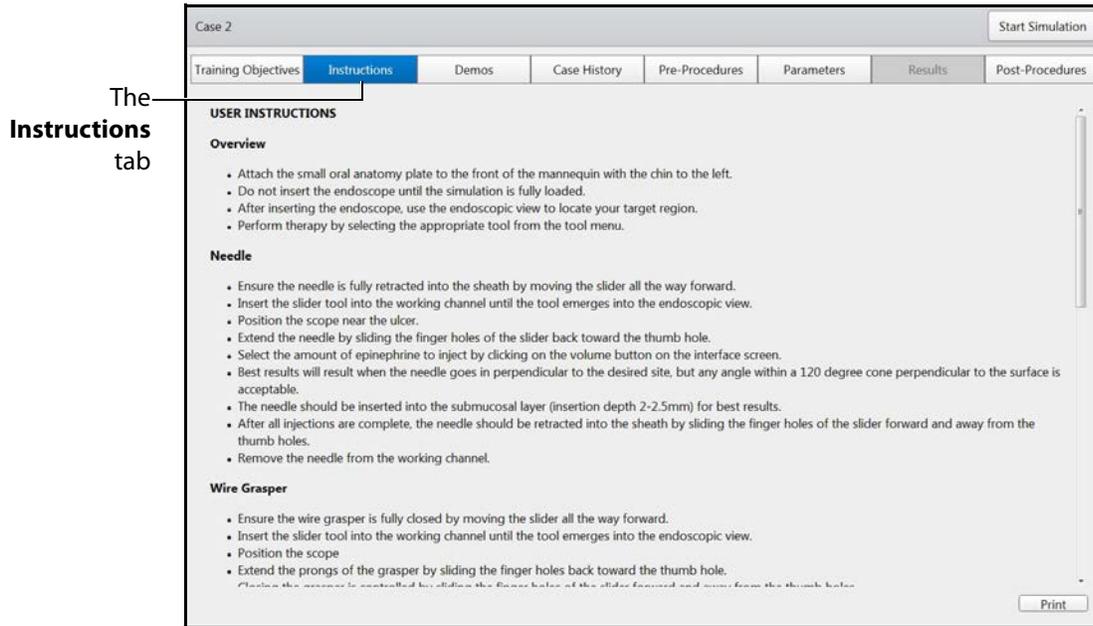


*The Training Objectives Screen*

The Training Objectives screen outlines the training goals and objectives users meet upon successful completion of the procedure.

## Instructions

To access the Instructions screen, click the **Instructions** tab. When selected, the tab appears blue and the Instructions screen appears.

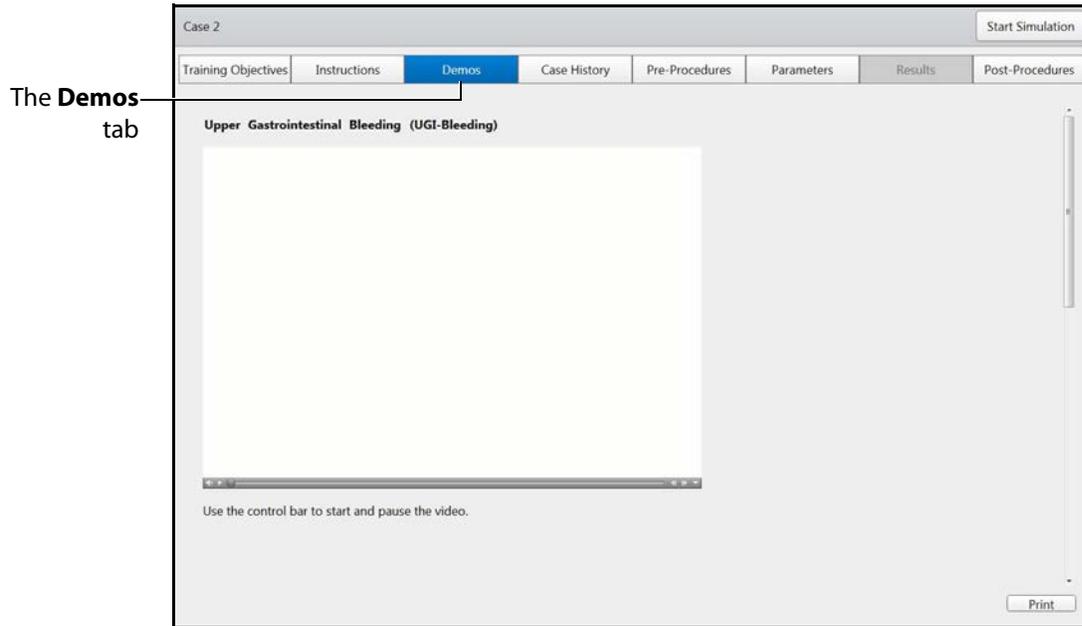


**The Instructions Screen**

The Instructions screen provides an overview of the procedure and directions for navigating through and performing the procedure.

## Demos

To access the Demos screen, click the **Demos** tab. When selected, the tab appears blue and the Demos screen appears.

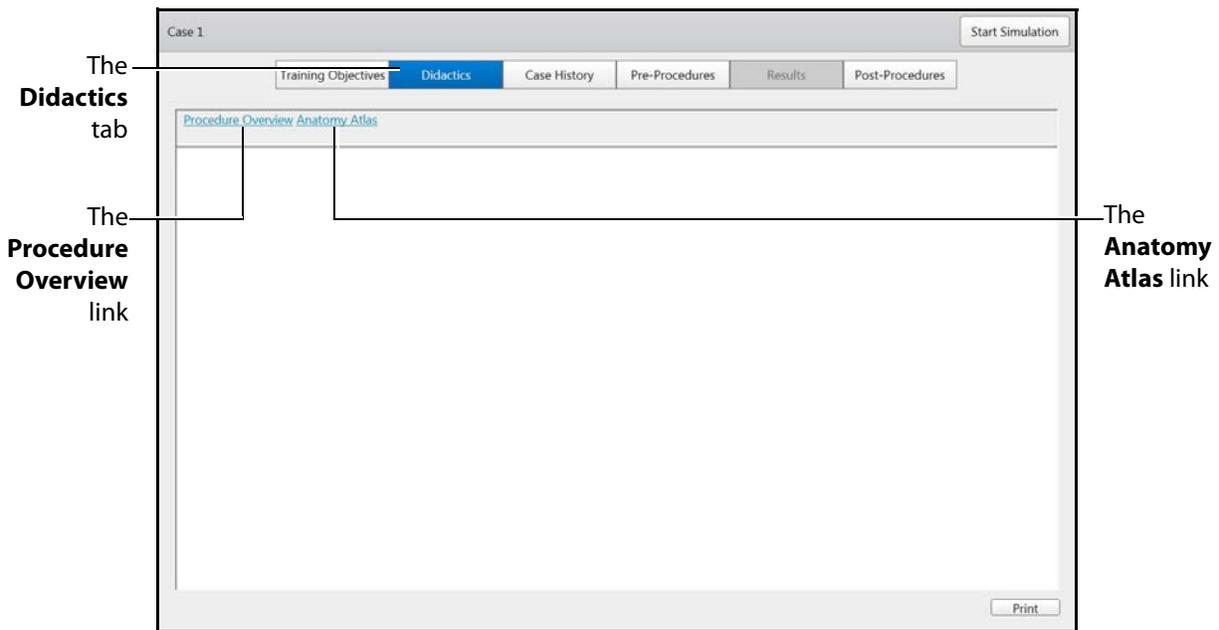


*The Demos Screen*

The Demos screen provides users with a tutorial on how to perform the selected procedure.

## Didactics

To access the Didactics screen, click the **Didactics** tab. When selected, the tab appears blue and the Didactics screen appears.

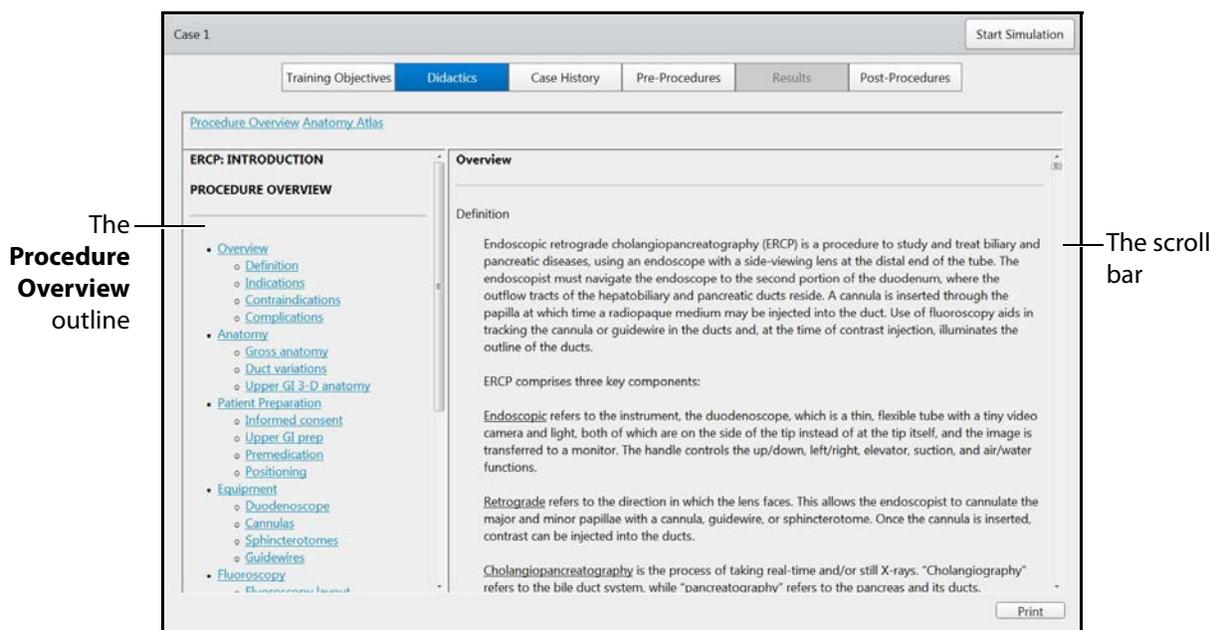


*The Didactics Screen*

The Didactics screen contains two outlines of content for the user to navigate: **Procedure Overview** and **Anatomy Atlas** (or **Pathology Atlas**).

## Procedure Overview

The Procedure Overview screen contains an outline of procedural information, videos and instructions created by endoscopy specialists and physicians.

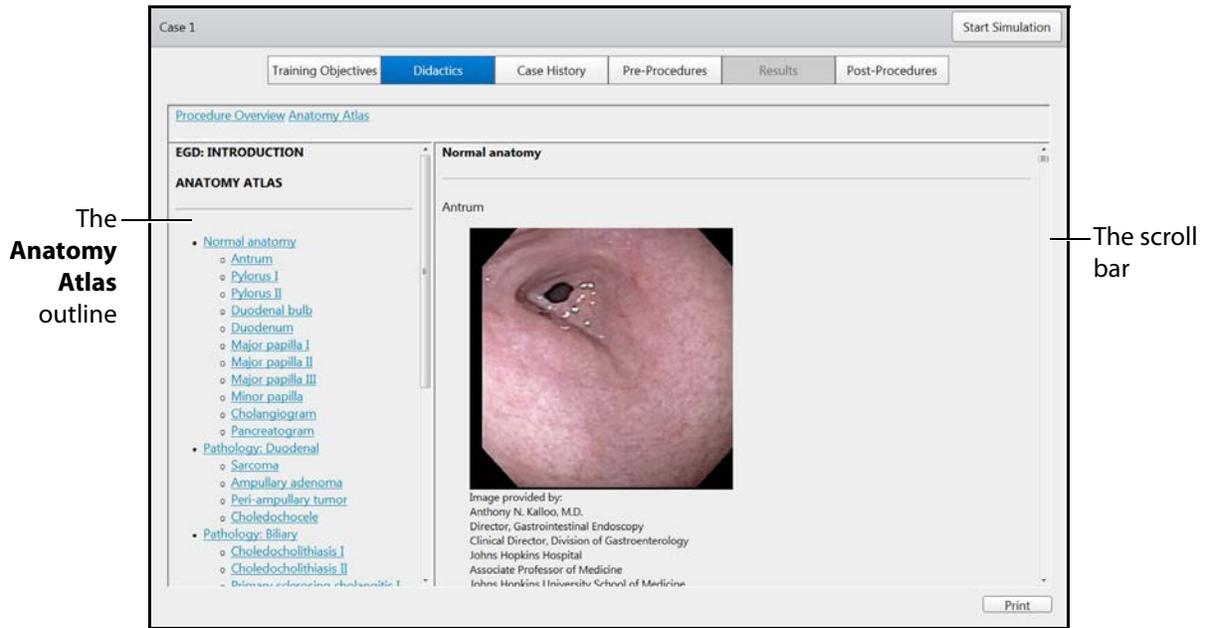


**The Procedure Overview Screen**

Learners can select the content to review by clicking on the outline hyperlinks or scrolling down the Procedure Overview screen.

## Anatomy Atlas

The Anatomy Atlas screen contains images of specific parts of the anatomy for the learner to review prior to beginning a procedure.

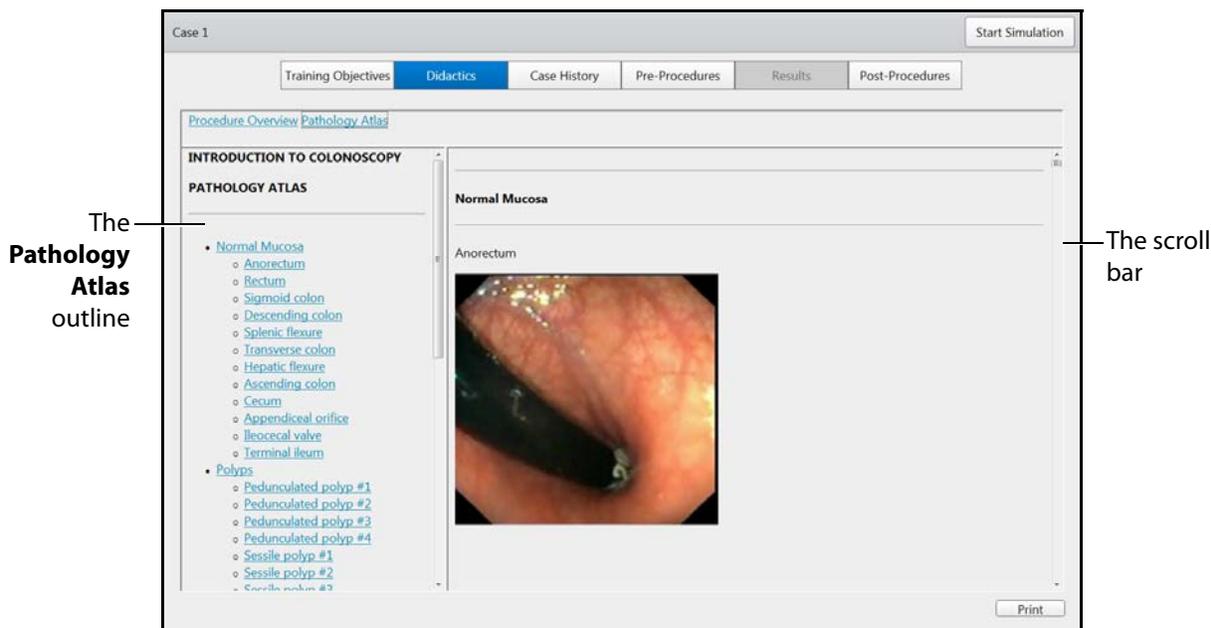


**The Anatomy Atlas Screen**

Learners can select the content to review by clicking on the outline hyperlinks or scrolling down the Anatomy Atlas screen.

### Pathology Atlas

The Pathology Atlas screen contains images of pathologies for the learner to review prior to beginning a procedure.



**The Pathology Atlas Screen**

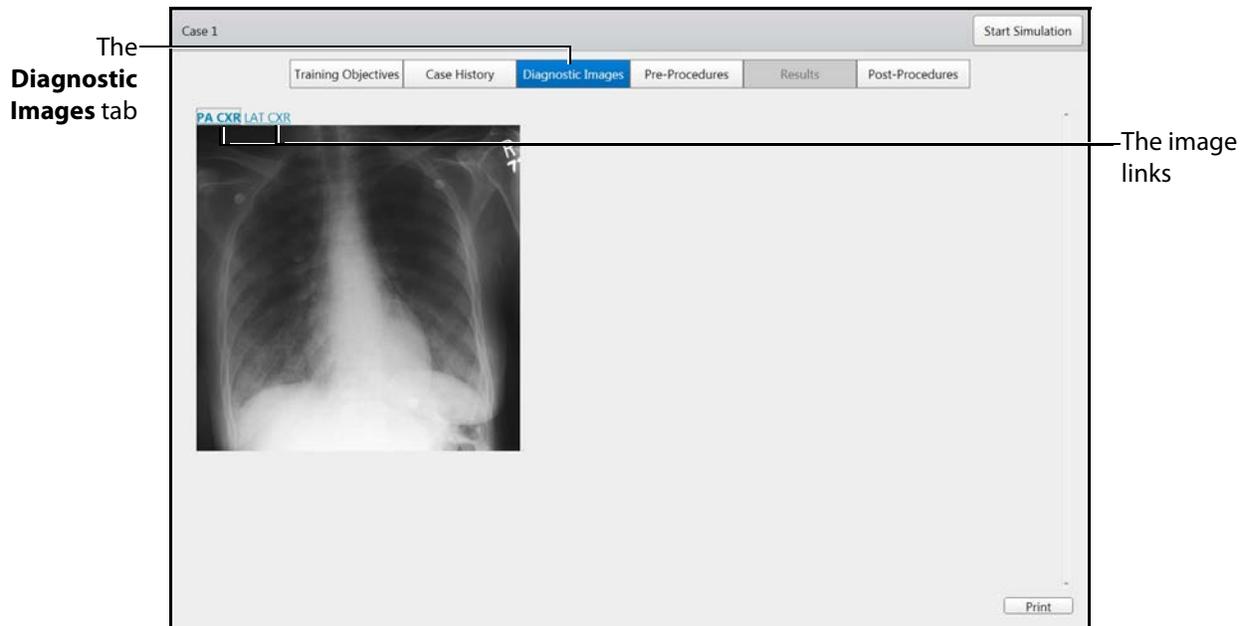
Learners can select the content to review by clicking on the outline hyperlinks or scrolling down the Pathology Atlas screen.

## Diagnostic Images

To access the Diagnostic Images screen, click the **Diagnostic Images** tab.

**NOTE:** In some modules, the **Diagnostic Images** tab replaces the **Didactics** tab.

When selected, the tab appears blue and the Diagnostic Images screen appears.

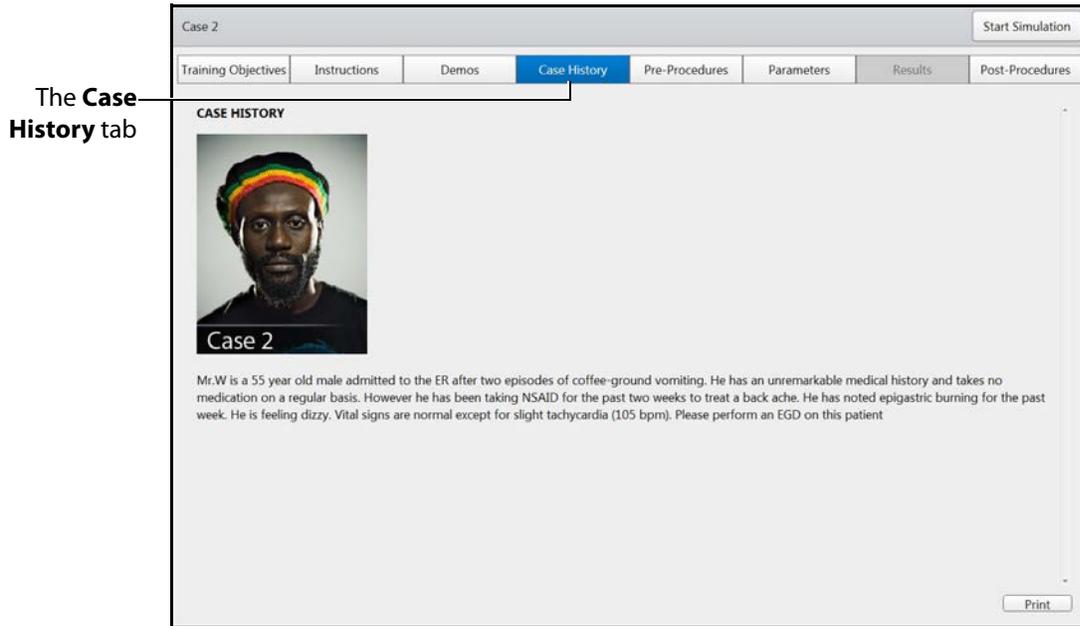


*The Diagnostic Images Screen*

The Diagnostic Images screen contains helpful images for learners to review prior to beginning the procedure. Click on an image link to view a diagnostic image.

## Case History

To access the Case History screen, click the **Case History** tab. When selected, the tab appears blue and the Case History screen appears.



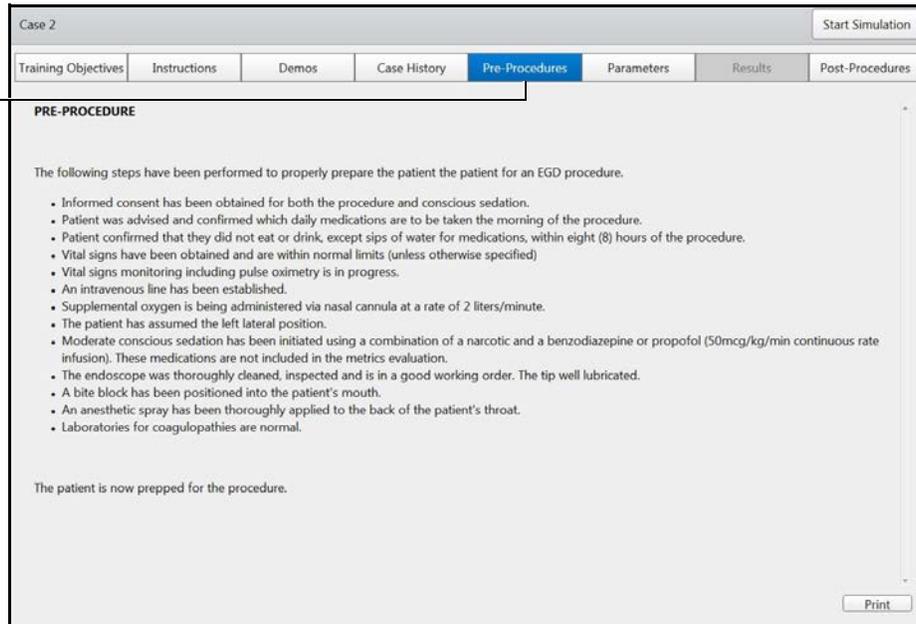
**The Case History Screen**

The Case History screen provides users with background information about the patient including symptoms, medical history and documentation of previous conditions and procedures.

## Pre-Procedures

To access the Pre-Procedures screen, click the **Pre-Procedures** tab. When selected, the tab appears blue and the Pre-Procedures screen appears.

The **Pre-Procedures** tab

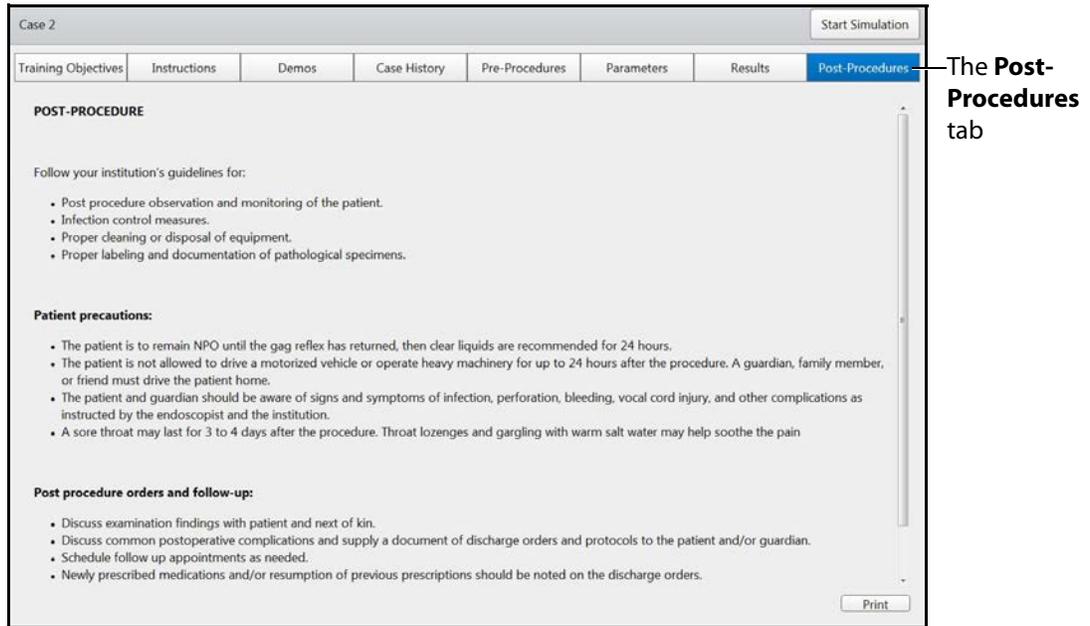


***The Pre-Procedures Screen***

The Pre-Procedures screen provides steps the user needs to complete prior to beginning the procedure.

## Post-Procedures

To access the Post-Procedures screen, click the **Post-Procedures** tab. When selected, the tab appears blue and the Post-Procedures screen appears.



*The Post-Procedures Screen*

The Post-Procedures screen provides actions users should perform after the procedure is complete.

## Changing User Parameters

Every task available on the simulator contains parameters for determining if the learner performed a procedure successfully. For some procedures, the administrator can provide users with the ability to change certain parameters such as timeouts, bleeding, and virtual aids. However, some modules do not contain any adjustable user parameters.

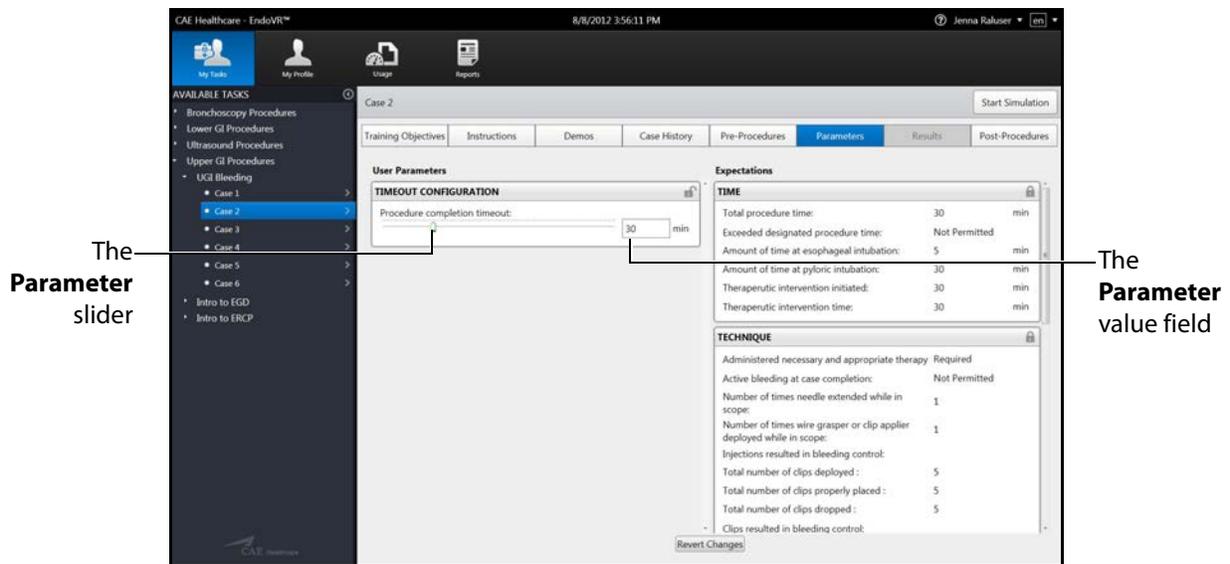
From the Parameters screen, learners can change the parameters prior to beginning a simulation. After the simulation is complete, the parameters return to their default values.

**NOTE:** Only unlocked user parameters can be adjusted by the user.

To change user parameters:

1. Select a task and click the **Parameters** tab.

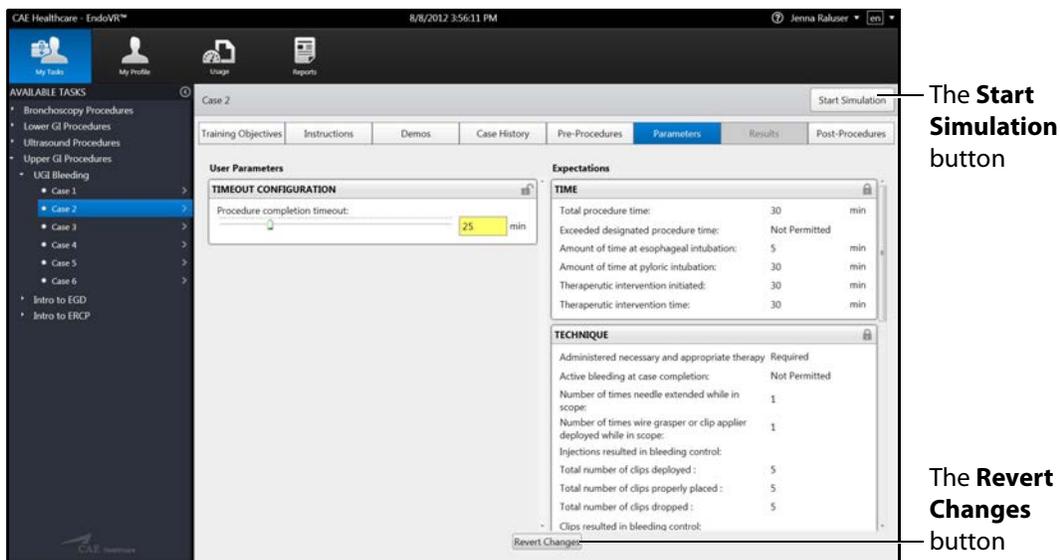
The Parameters screen appears.



**The Parameters Screen**

2. Use the slider to adjust the parameter to the desired value.

The adjusted parameter appears yellow and the changes are recognized until the user navigates to a different task or completes the simulation. Users can also cancel the parameter changes by clicking the **Revert Changes** button.



**The Parameters Screen with Adjusted Parameter**

**NOTE:** Parameters with a value field can also be adjusted by replacing the desired value in the value field. The new value must be within the parameters value range.

# Running a Simulation

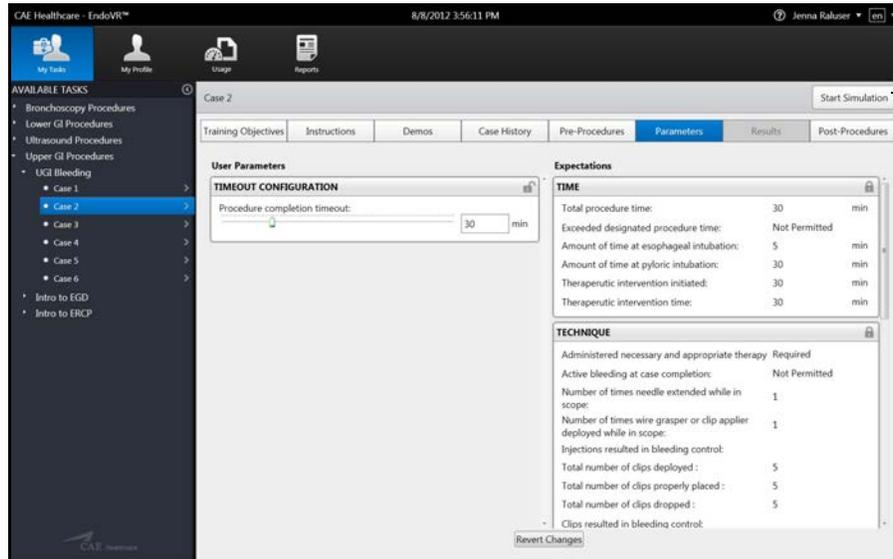
Prior to running a simulation, prepare for the simulation by completing the following steps:

1. Select the desired task.
2. Review the associated didactic content.
3. Complete any parameter adjustments, if applicable.

After the preparation steps are complete, start the simulation.

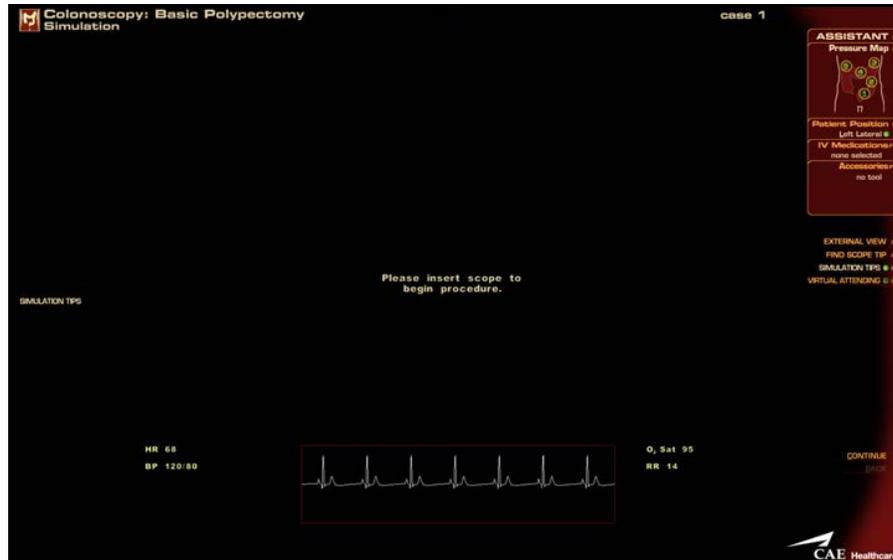
To start a simulation:

1. Click the **Start Simulation** button from any screen within the selected task.



**The Parameters Screen**

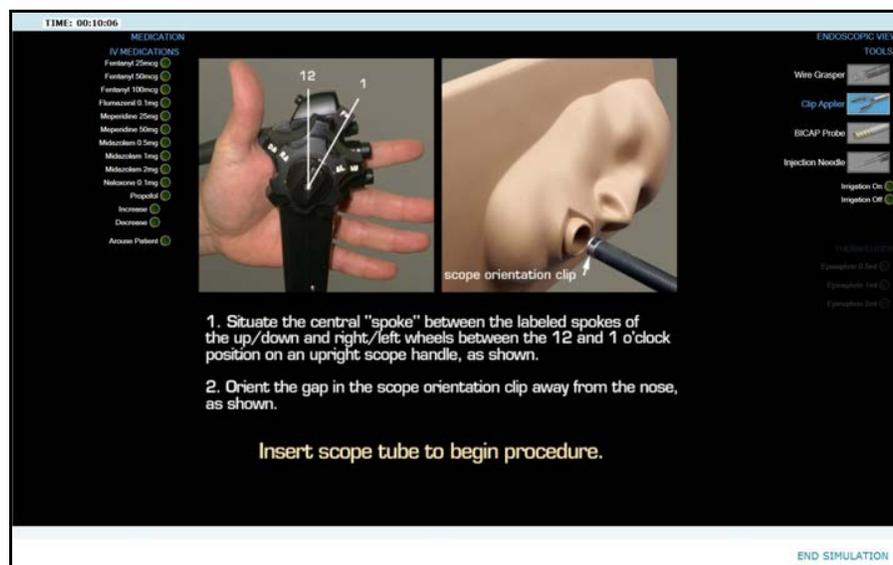
The simulation launches and the simulation start screen appears.



**The Simulation Start Screen**

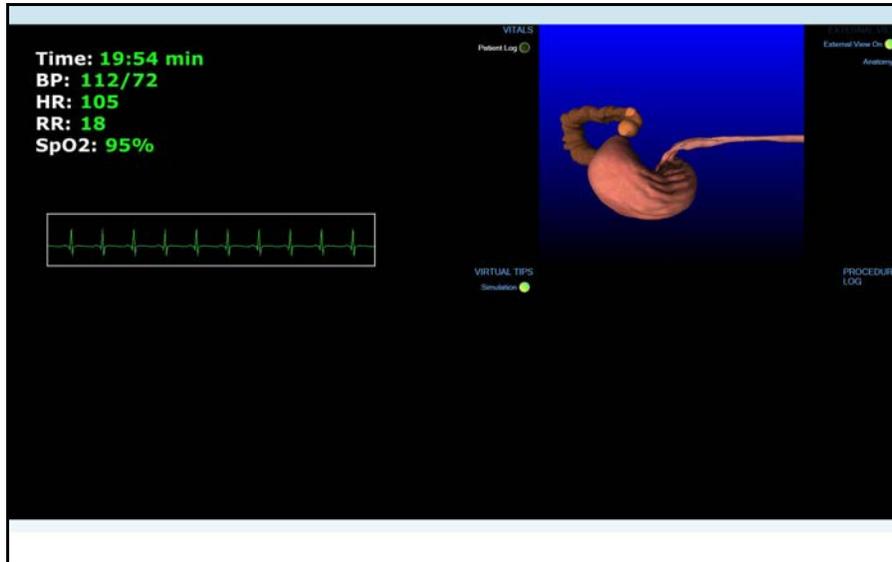
**IMPORTANT:** Some modules contain different content related to the simulation, which may display on both the left and right monitors.

When a task from the upper GI bleeding module is selected, the simulation start screen appears on the left monitor.



**The Left Monitor Start Screen**

The vitals and external view appear on the right monitor.



*The Right Monitor Start Screen*

**NOTE:** Be sure to observe the content on both monitors while performing procedures.

## Selecting a Scope

The corresponding scopes and scope tubes are provided for purchased modules. Different scopes are used for different procedures.

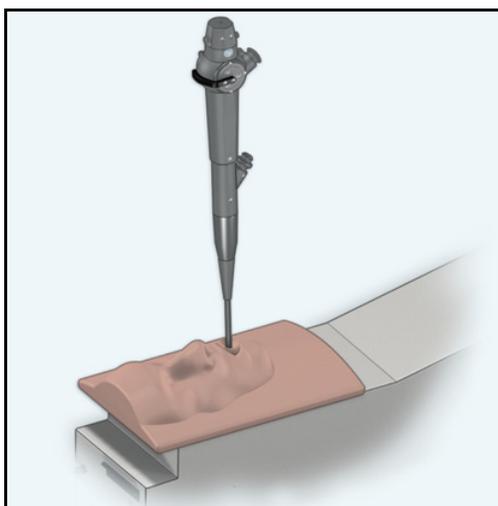
### Bronchoscope

The bronchoscope is used in the Bronchoscopy modules including Pediatric Difficult Airway, Endobronchial Sampling and Transbronchial Needle Aspiration (TBNA).



*The Bronchoscope Diagram*

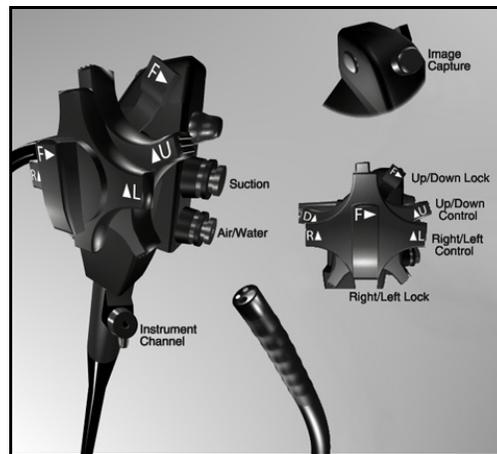
Stand to the left of the simulator when inserting the bronchoscope.



*The Bronchoscopy Orientation*

## Endoscope

The endoscope is used for the Lower GI and Upper GI modules, including Introduction to Colonoscopy, Colonoscopy: Biopsy, Colonoscopy: Basic Polypectomy, Introduction to Flexible Sigmoidoscopy, Flexible Sigmoidoscopy: Supplementary Cases, Introduction to ERCP, Introduction to EGD and UGI Bleeding.



***The Endoscope Diagram***

Stand directly in front of the simulator when inserting the endoscope unless otherwise informed when reviewing the didactic content prior to beginning the module.



***The Endoscope Hand Positioning***

To select a scope:

1. From the scope holder located on the back of the monitor, select the desired scope.
2. Ensure the selected scope is connected.

**NOTE:** The desired scope should be connected to the simulator by the administrator during the simulator setup. However, if a different scope is required for the selected module, the learner must change the scope.

## Changing a Scope

When the chosen task requires a different scope from the scope that is currently connected, learners can disconnect the current scope and connect the new scope.

**NOTE:** Do not disconnect scope during a running simulation.

To disconnect a scope:

- a. Twist the two fasteners on the scope connector counterclockwise.

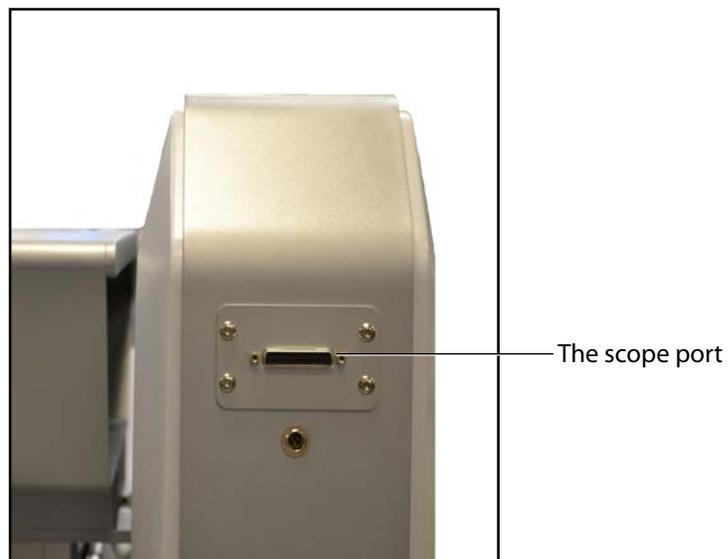


*The Scope Connector and the Scope Port*

- b. Pull the connector away from the scope port.  
The scope is disconnected.

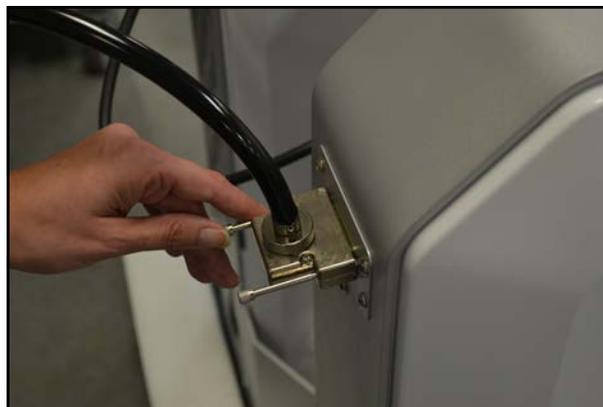
To connect a scope:

- a. Choose the desired scope from the scope holder located on the back of the simulator.
- b. Align the prongs in the connector with the scope port located on the back left side of the simulator.



***The Back of the Simulator***

- c. Press the connector into the scope port and twist the two fasteners clockwise.



***The Scope Connector and the Scope Port***

The scope is connected to the simulator.

## Using the Scope

After selecting and connecting the appropriate scope, the scope is ready to be used.

To use the scope on the simulator:

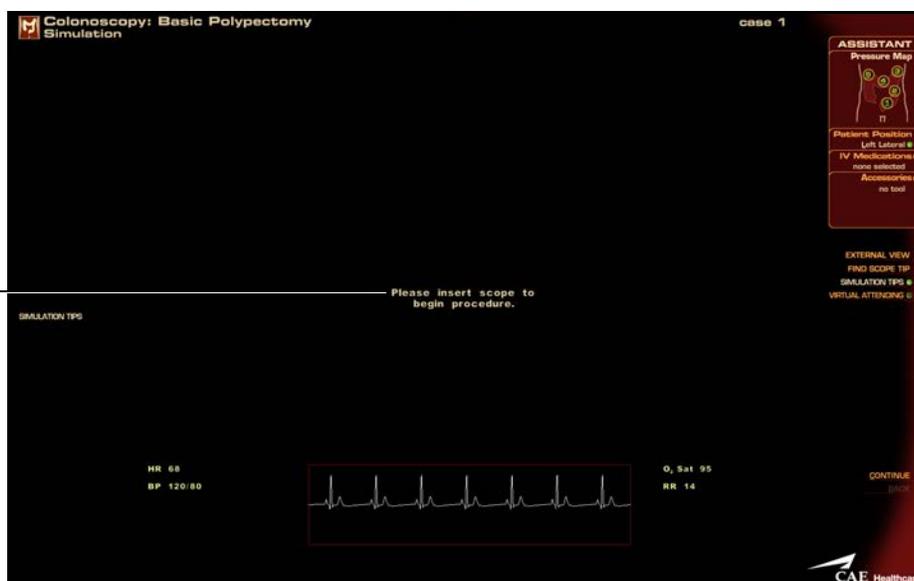
1. Turn the anatomy plate to the correct anatomical part for the procedure, if applicable.
2. Stand to the left or directly in front of the EndoVR device (depending on the appropriate orientation for the chosen procedure).
3. Select the desired task, review the didactic content and click **Start Simulation** to begin the simulation.

The Simulation Start screen appears on the monitor(s).

**WARNING:** DO NOT insert the scope tube until the insertion message appears on the simulation screen.

4. When the **Please Insert Scope to Begin Procedure** message appears on the Simulation Screen, carefully insert the scope tube into the simulator.

The **Please Insert Scope to Begin Procedure** message



**The Simulation Start Screen**

5. Navigate the scope insertion by observing the insertion on the monitor and using the appropriate controls on the scope.

For more information on selecting the proper scope, accessory and changing the anatomy plate for the module, see *Appendix A - Module Descriptions* on page 57.

## Selecting an Accessory Tool

Some tasks in the modules require the use of an accessory such as a snare or needle to assist the learner during a procedure.

The EBUS-TBNA accessory tool is a single hardware component that is used with the bronchoscope to simulate several different tools and functions during EBUS-TBNA module tasks in the software.



*The EBUS-TBNA Accessory Tool*

The Upper GI/Lower GI accessory tool is a single hardware component that is used with the endoscope to simulate several different tools and functions during Upper GI and Lower GI module tasks in the software.



*The Upper GI/Lower GI Accessory Tool*

## Connecting an Accessory Tool to the Simulator

To connect an accessory tool to the simulator:

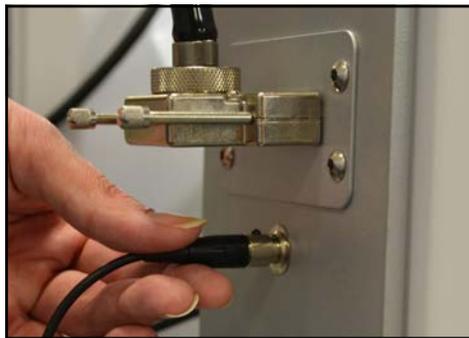
1. Locate the accessory tool port on the back of the simulator.



The accessory tool port

*The Back of the Simulator*

2. Press the accessory tool connector into the accessory tool port.



*The Accessory Port*

The accessory tool is connected.

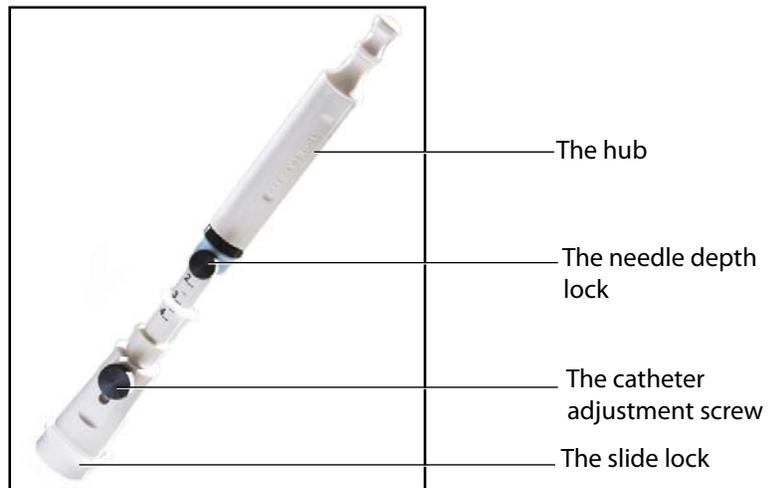
**NOTE:** The Upper GI/Lower GI accessory tool does not require any further action to connect to the simulator.

## Connecting the EBUS-TBNA Accessory Tool to the Bronchoscope

After the EBUS-TBNA accessory tool is connected to the simulator, connect the tool to the bronchoscope prior to use.

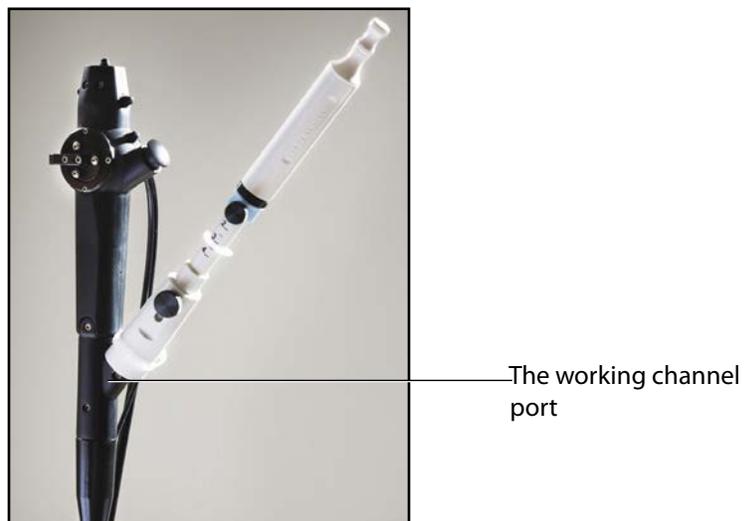
To connect the EBUS-TBNA accessory tool to the bronchoscope:

1. Ensure the needle is fully retracted by pulling up the hub until it clicks and tighten the needle depth lock to secure the hub in place.



***The EBUS-TBNA Accessory Tool Connected to the Working Channel Port***

2. Ensure the catheter is fully retracted and tighten the catheter adjustment screw to secure the catheter in place.
3. Connect the wide end of the EBUS-TBNA tool to the working channel port on the bronchoscope and secure the tool with the slide lock.



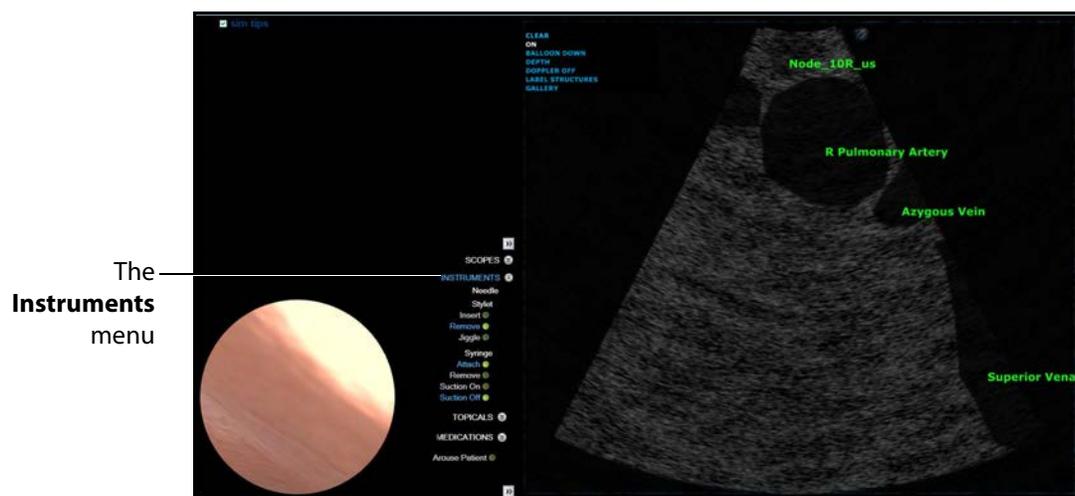
***The EBUS-TBNA Accessory Tool Connected to the Working Channel Port***

## Using the EBUS-TBNA Accessory Tool

After the desired task is selected, the simulation is started and the accessory tool is connected, the EBUS-TBNA accessory tool is ready to be used.

To use the EBUS-TBNA accessory tool:

1. From the **Instruments** menu, located on the left monitor in the EBUS-TBNA module, select the appropriate tool designation in the software.



**The Left Monitor Simulation Screen**

2. On the EBUS-TBNA accessory tool, ensure the needle is fully retracted by pulling up the hub until it clicks.  
A pop-up window appears on the Simulation screen.
3. Click **OK**.
4. Set the catheter adjustment screw to the appropriate depth.
5. Set the needle depth lock to an appropriate depth for needle penetration.
6. Using the EBUS-TBNA accessory tool, insert the needle into the node while simultaneously observing the depth of the needle on the simulation screen.
7. Click **Jiggle** to jiggle the stylet, if desired.  
**NOTE:** When a menu item is selected, the green circle next to the item appears bright green and the menu item text appears blue.
8. From the Stylet, menu, select **Remove**.
9. From the Syringe menu, select **Attach**.
10. From the Syringe menu, select **Suction On**.
11. Agitate the needle within the node to obtain the sample.
12. From the Syringe menu, select **Suction Off** or **Remove Syringe**.

13. Retract needle fully by pulling up on the hub until it clicks into place.
14. Lock the hub in place with the needle depth lock.
15. Remove the accessory tool from the working channel and repeat the process as required.

## Using the Upper GI and Lower GI Accessory Tool

After the desired task is selected, the simulation started and the accessory tool is connected, the Upper GI and Lower GI accessory tool is ready to be used.

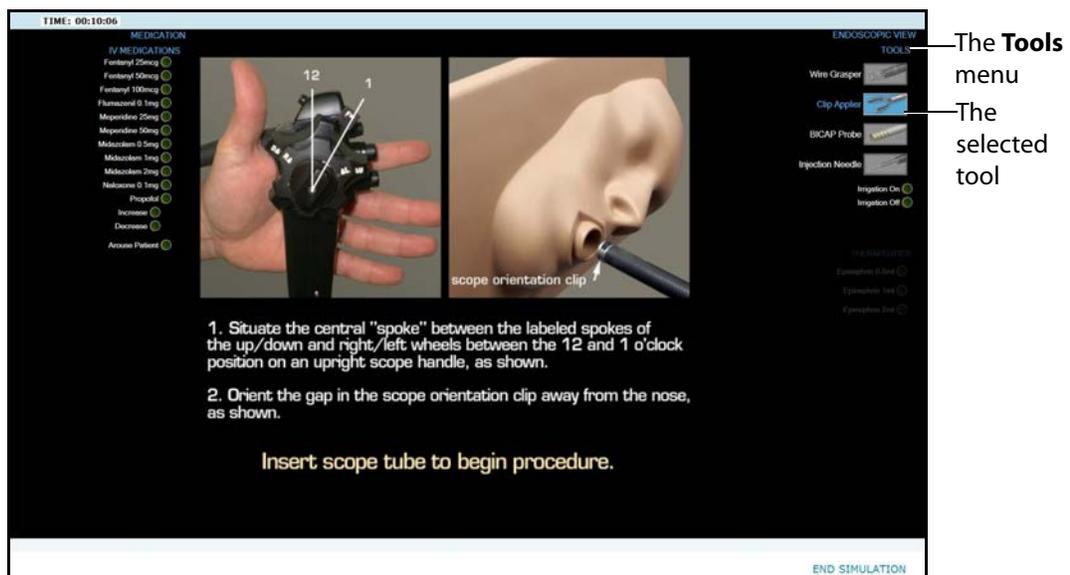
To use the Upper GI and Lower GI accessory tool:

1. Ensure the finger loops of the handle are pressed together.  
The tool must be in the retracted (closed) position prior to using the tool.



**The Accessory Tool in the Retracted Position**

2. From the **Tools** menu, located on the left monitor during the UGI Bleeding module, select the appropriate tool designation in the software. When the menu item is selected, the menu item graphic and the menu item text appears blue.



The **Tools** menu  
The selected tool

1. Situate the central "spoke" between the labeled spokes of the up/down and right/left wheels between the 12 and 1 o'clock position on an upright scope handle, as shown.

2. Orient the gap in the scope orientation clip away from the nose, as shown.

Insert scope tube to begin procedure.

END SIMULATION

**The Left Monitor Simulation Screen**

**NOTE:** The location of the tool selection options on the screen and the appearance of the available tools will vary depending on the selected module.

3. Insert the plastic filament from the accessory tool into the working channel of the scope.



***The Insertion of the Accessory Tool Filament***

4. Pull the single finger loop away to deploy the selected tool.  
This position is known as the deployed (open) position.



***The Accessory Tool in the Deployed Position***

**NOTE:** If an accessory tool is unavailable, learners may use the virtual substitutes in the software. Click the **Close** < button or use the left arrow key on the keyboard to retract the tool. Click the **Open** > button on the simulation screen or use the right arrow key on the keyboard to insert the tool. Always retract the tool before insertion.

## Using the Pedals

The Simulation Start screen appears.

The pedals provide energy for electro-cautery instruments and are only available for use in certain modules.

To use the pedals:

1. Remove the pedals from the storage tray located underneath the simulator.
2. Place the pedals directly in front of the simulator.



*The Simulation Pedals*

3. Select the desired procedure, review the didactic content and click **Start Simulation** to start the simulation.
4. Press down on the foot pedal gradually to power the selected instrument during the simulation.

**NOTE:** During the ERCP Module, the left pedal allows learners to access the fluoroscopic view of the simulation.

## Ending a Simulation

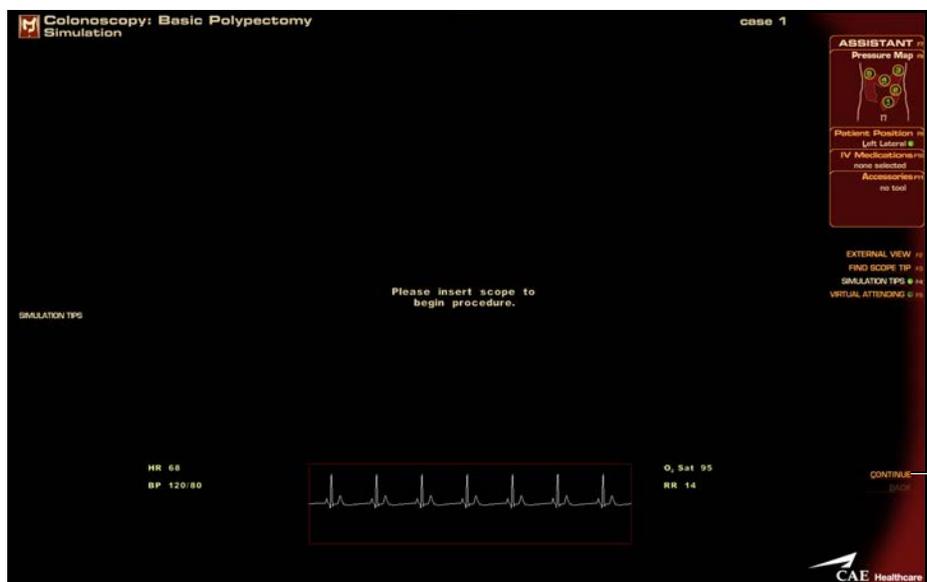
The EndoVR simulator has multiple ways in which a simulation can end.

In some cases, the learner makes a procedural error and is unable to correct the error within the allotted time for the simulation. Certain task parameters affect what types of injuries or errors are acceptable and correctable within a simulation. If a learner performs a fatal error, the simulation will end before the time expires.

In other cases, the learner completes the procedure before the allotted time has expired and the simulation ends.

Learners also have the option to stop a simulation at any time during the procedure.

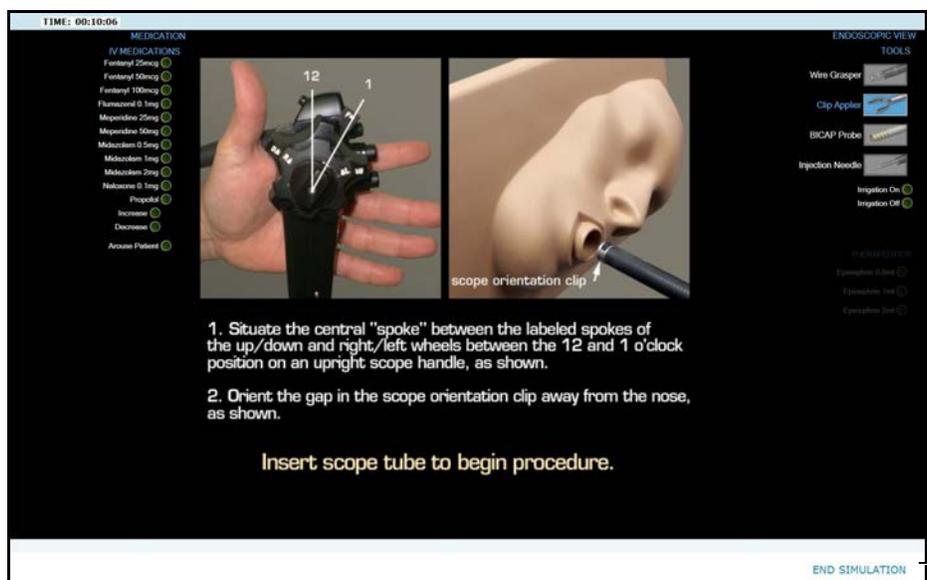
To end a simulation manually, from the simulation screen, click the **Continue** button.



The Simulation Screen

**NOTE:** Some modules do not contain a **Continue** button.

To end the simulation manually in modules without a **Continue** button, click the **End Simulation** button.

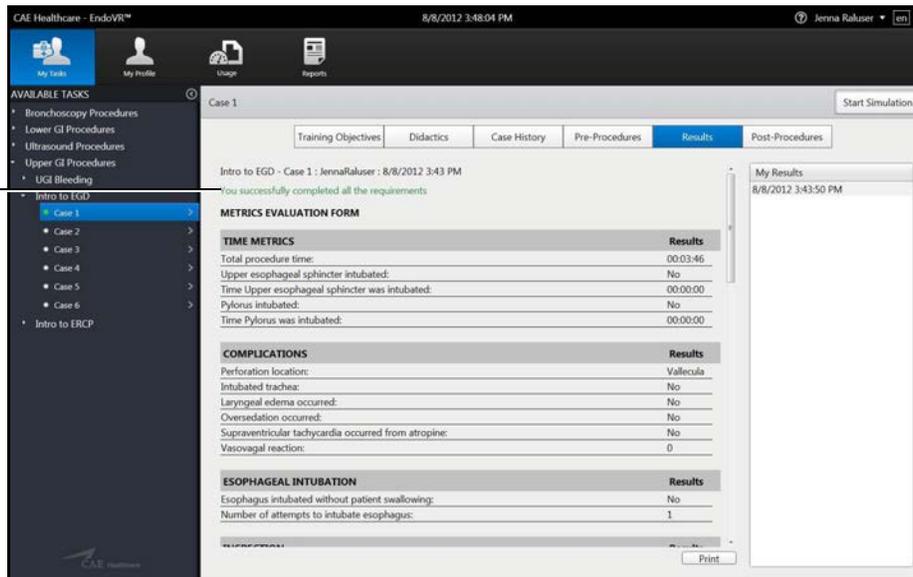


The Simulation Screen

# Viewing Results

Once the simulation is complete, the Results screen appears. If the learner meets all of the parameters for the simulation, the **Successful Completion** message displays.

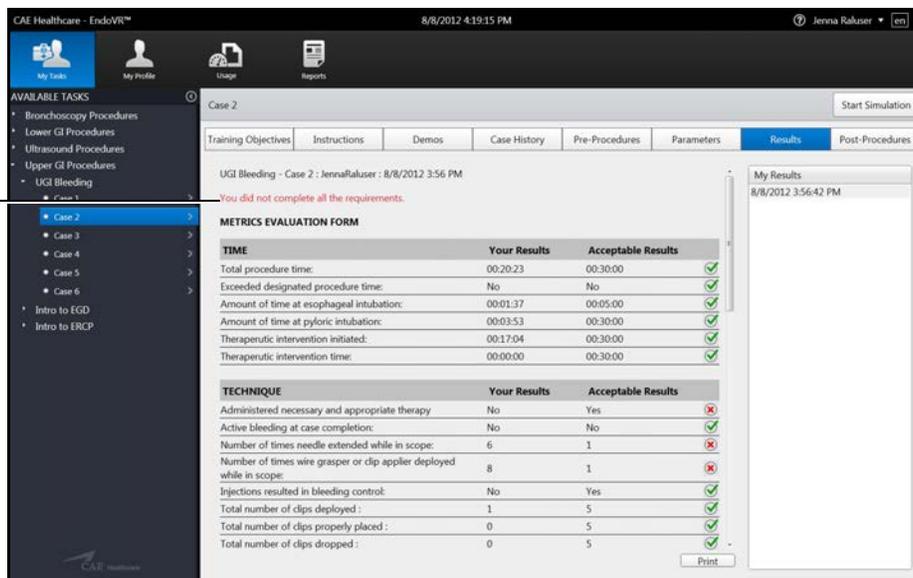
The Successful Completion message



The Results Screen

If the learner did not meet all of the parameters for the simulation, the **Unsuccessful Completion** message displays.

The Unsuccessful Completion message



The Results Screen

For information on printing reports, see *Printing Data from the Simulator on page 50*.

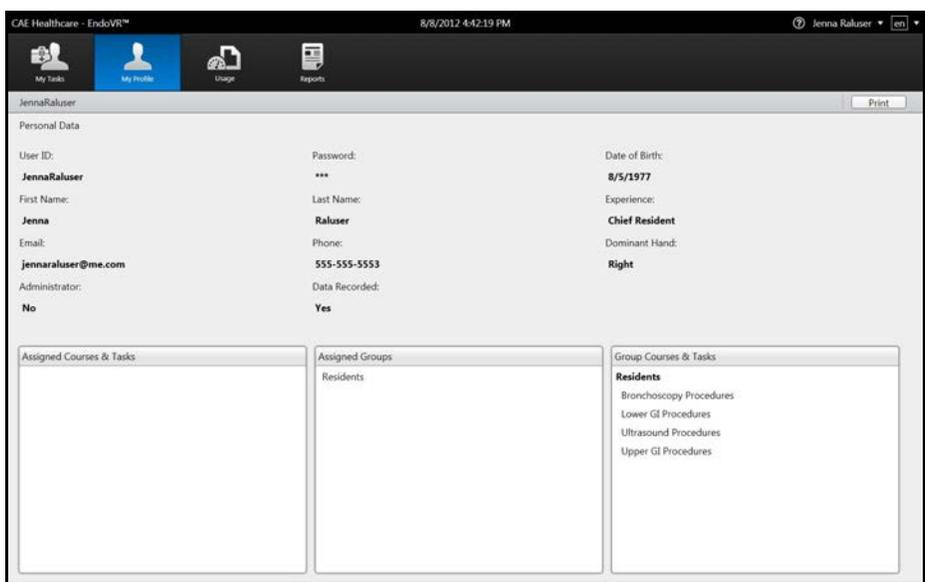
# Viewing Personal Data

To view personal data, click the **My Profile** icon.



*The Icon Dashboard*

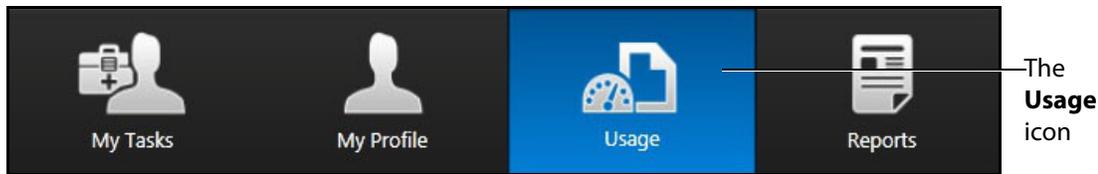
The Personal Data screen appears.



*The Personal Data Screen*

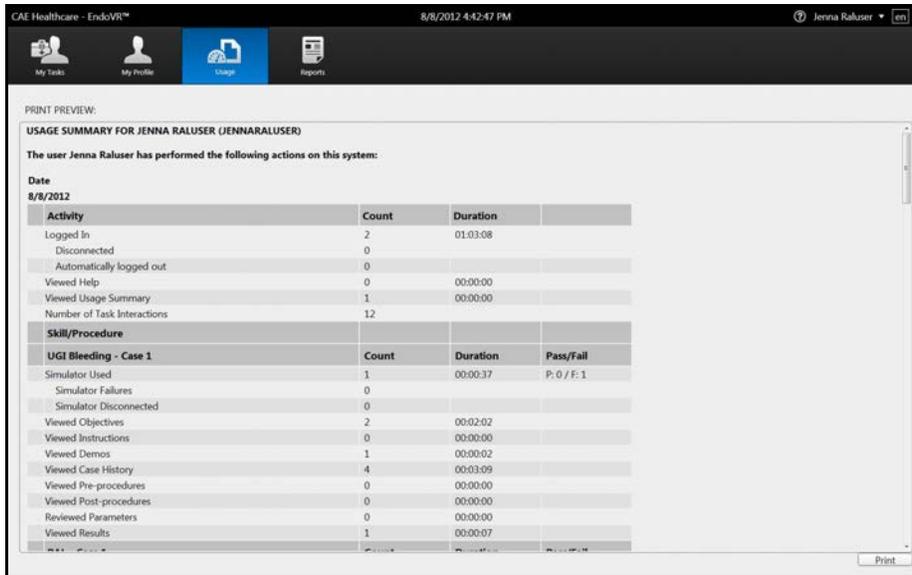
# Viewing Usage Summaries

To view usage summaries, click the **Usage** icon.



*The Icon Dashboard*

The Usage Summary screen appears.



PRINT PREVIEW:  
**USAGE SUMMARY FOR JENNA RALUSER (JENNARALUSER)**  
 The user Jenna Raluser has performed the following actions on this system:

Date  
 8/8/2012

Activity	Count	Duration	
Logged In	2	01:03:08	
Disconnected	0		
Automatically logged out	0		
Viewed Help	0	00:00:00	
Viewed Usage Summary	1	00:00:00	
Number of Task Interactions	12		

Skill/Procedure

UGI Bleeding - Case 1	Count	Duration	Pass/Fail
Simulator Used	1	00:00:37	P: 0 / F: 1
Simulator Failures	0		
Simulator Disconnected	0		
Viewed Objectives	2	00:02:02	
Viewed Instructions	0	00:00:00	
Viewed Demos	1	00:00:02	
Viewed Case History	4	00:03:09	
Viewed Pre-procedures	0	00:00:00	
Viewed Post-procedures	0	00:00:00	
Reviewed Parameters	0	00:00:00	
Viewed Results	1	00:00:07	

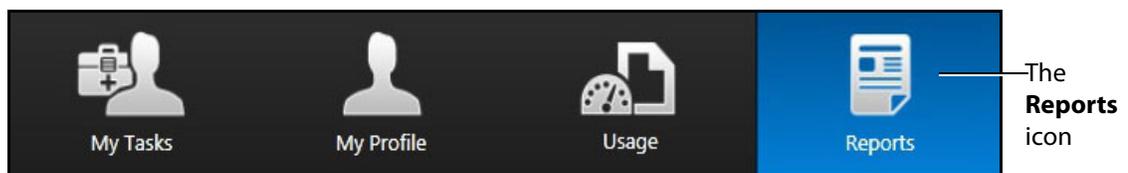
*The Usage Summary Screen*

## Viewing Reports

Learners can view customized reports from the Reports screen.

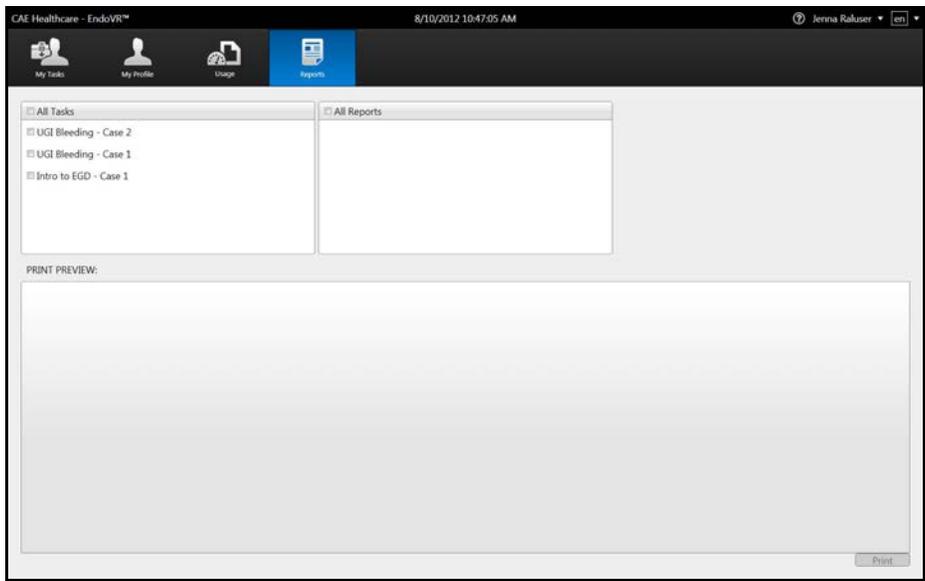
To view reports:

1. Click the **Reports** icon.



*The Icon Dashboard*

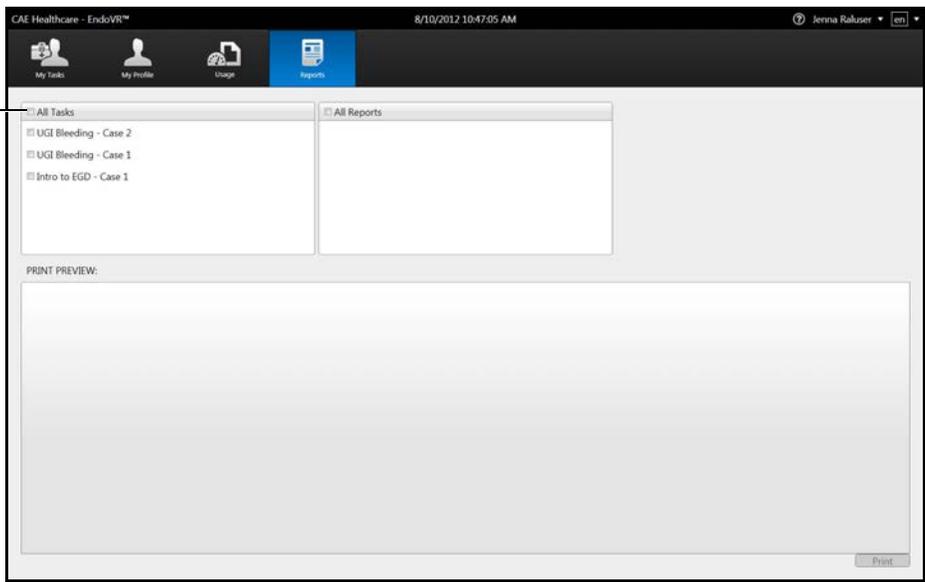
The Reports screen appears.



*The Reports Screen*

2. From the **Tasks** options, select the desired tasks to include in the report or select **All Tasks**.

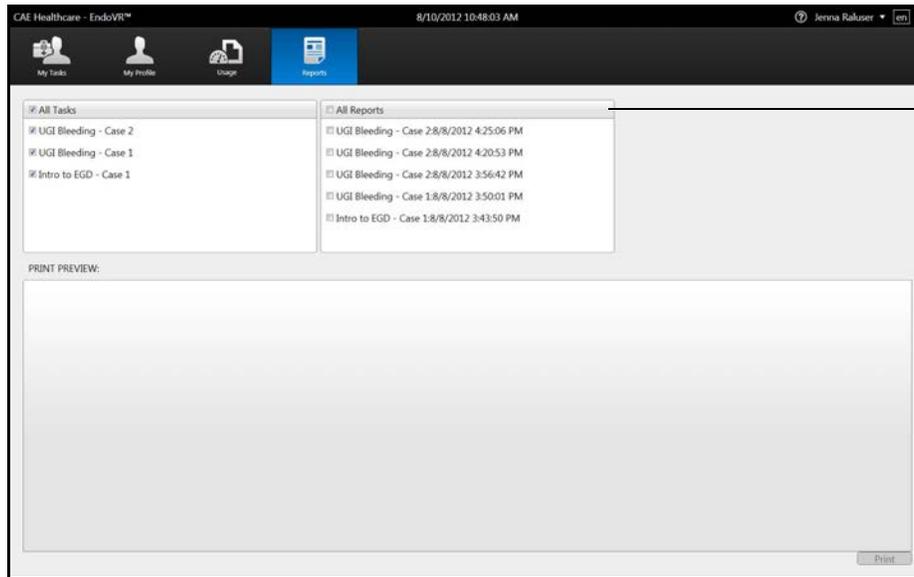
The **Tasks** options



*The Reports Screen*

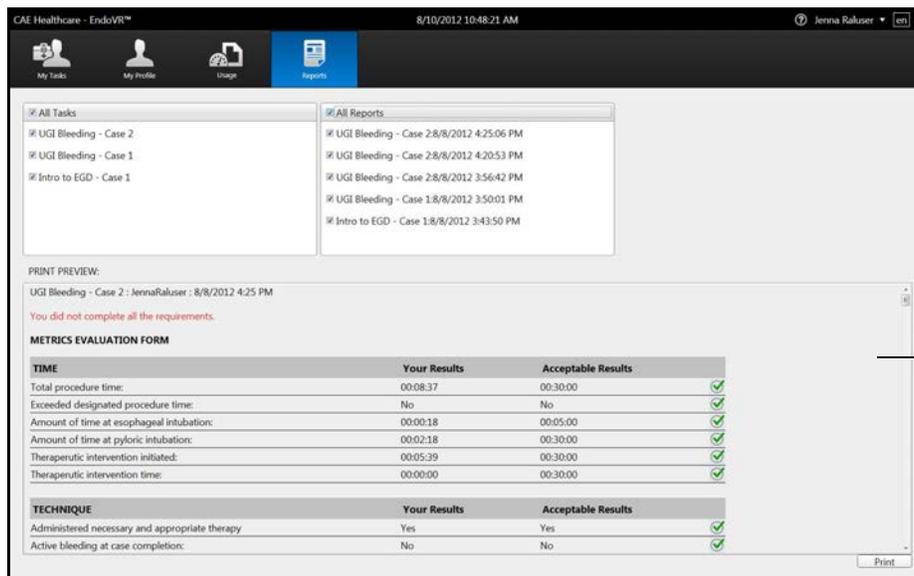
The **Reports** options appear.

- From the **Reports** options, select the desired reports to include in the report or select **All Reports**.



*The Reports Screen*

The report appears in the **Print Preview** panel.



*The Reports Screen*

The report is now available for printing.

# Printing Data from the Simulator

Learners can print the data from the Results screen after completing a task. The print feature is also available on the Personal Data, Usage Summaries and Reports screens.

The Reports screen is the only screen that requires the learner to select the data to include in the report and generate a print preview prior to printing.

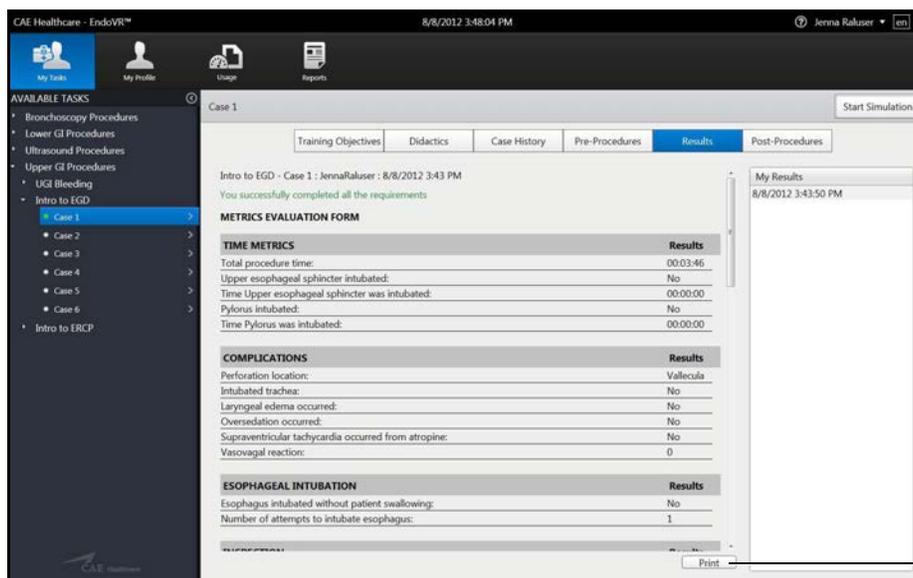
For more information about selecting data to generate a Print Preview, see *Viewing Reports on page 47*.

## Printing Data to a Network Printer

A network connection is required for printing to a network printer. Contact your administrator for further assistance.

To print data to a network printer:

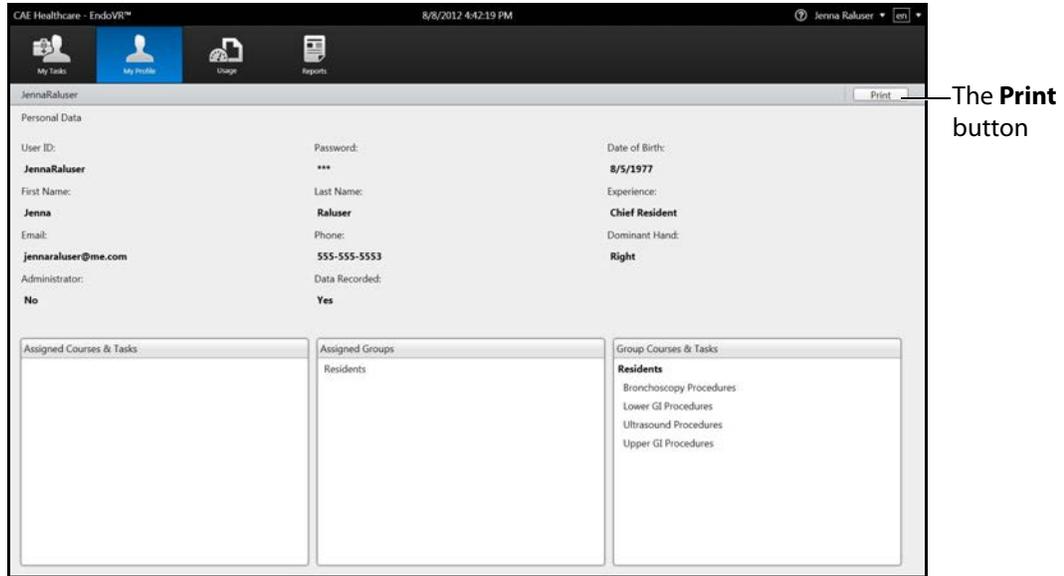
1. From the selected screen, click the **Print** button located near the bottom right corner of the screen.



The **Print** button

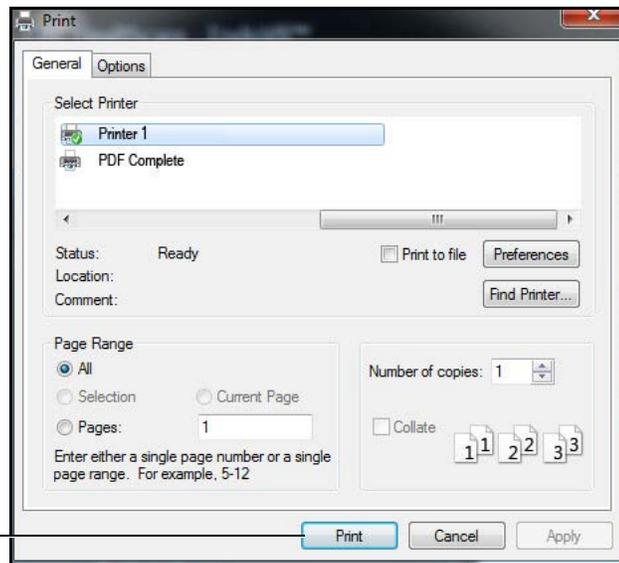
**The Results Screen**

**NOTE:** The **Print** button on the Personal Data screen is located near the top right corner of the screen.



**The Personal Data Screen**

The print window appears.



The **Print** button

**The Print Window**

2. Select the desired network printer.
3. Click **Print**.

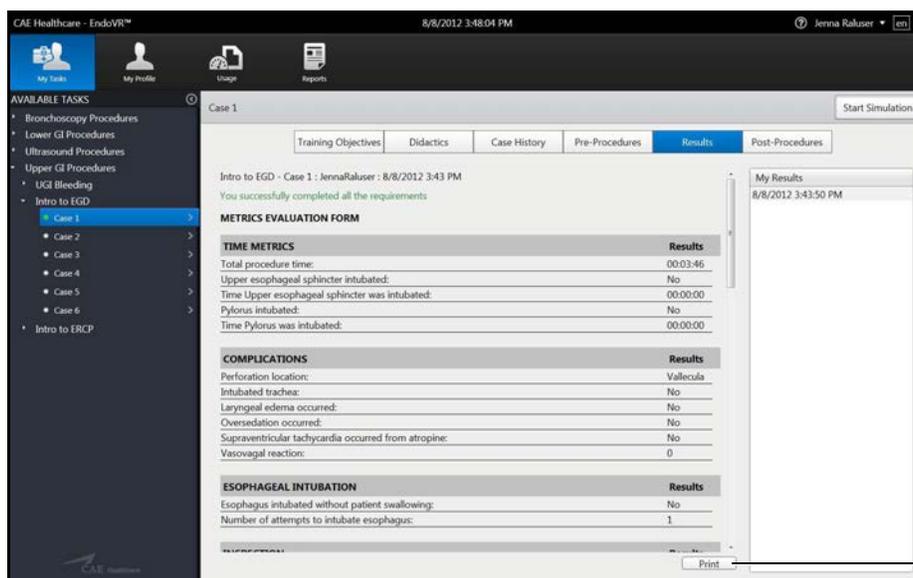
The document prints to the network printer.

## Printing Data to a PDF File

If network connection is not available or no network printers are available, users can print data to a PDF file and save the file to an external device to print on a computer with a network printer connection.

To print the data to a PDF file:

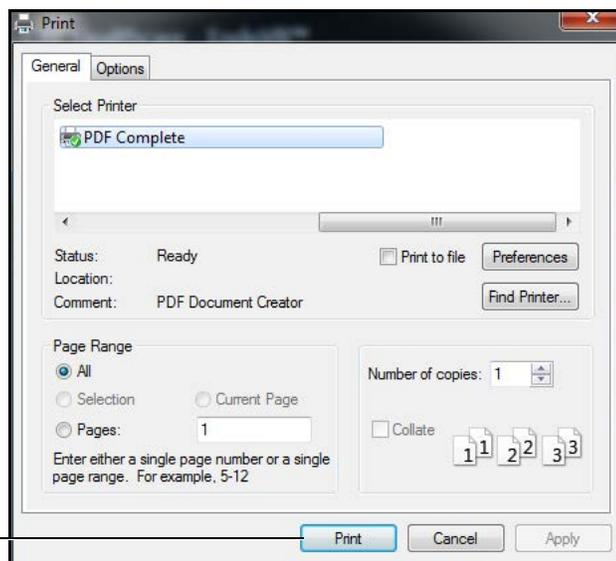
1. From the selected screen, click the **Print** button located near the bottom right corner of the screen.



The **Print** button

*The Results Screen*

The print window appears.

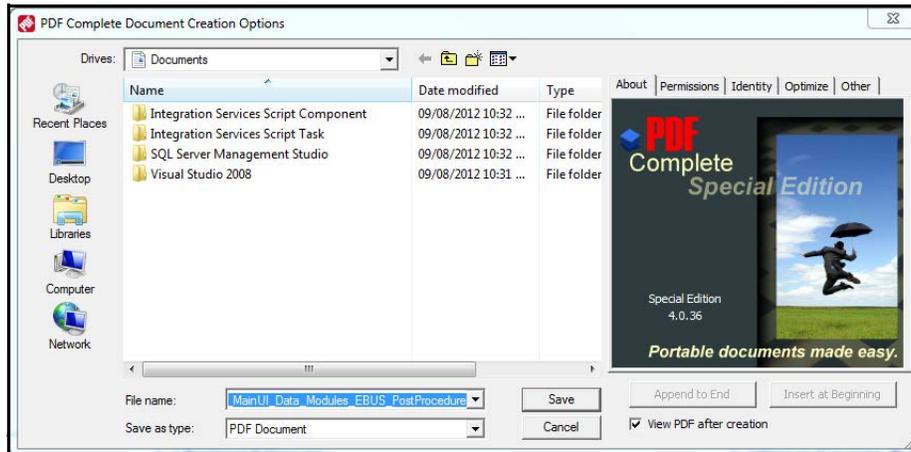


The **Print** button

*The Print Window*

2. Select the **PDF Complete** program.
3. Click **Print**.

The PDF window appears.



**The PDF Complete Document Creation Options Window**

4. Select the desired folder where the file will be saved.
- NOTE:** If the location is on an external device, use the USB port located on the back of the simulator to connect the external device to the simulator.
5. Enter the desired file name in the **File name** field.
  6. Click **Save**.

The PDF Complete window appears.

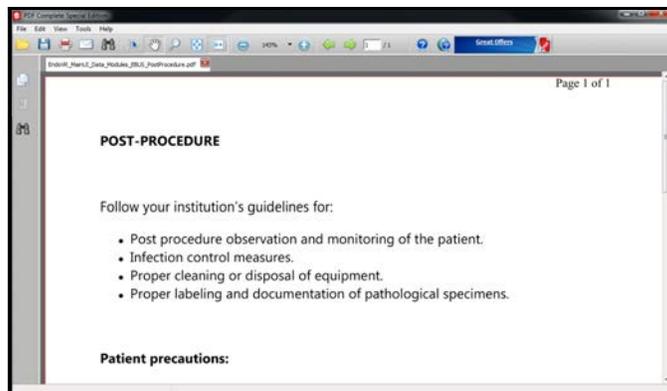


The **Done** button

**The PDF Complete Window**

7. Click **Done**.

The PDF Complete Special Edition window appears with the completed PDF.



The PDF Complete Window

## Modifying Language Preferences

Learners can change the language settings for their personal account using the language preferences menu in the top right corner of the screen.

To modify the language preferences:

1. Click the **Language Preferences** menu.  
A language drop-down menu appears.



The Home Screen

2. Select the preferred language from the drop-down menu.

A checkmark appears next to the selected language and the language is applied to the software.

**NOTE:** Since the EndoVR software is currently only available in English, no other options are available to set as the default language.

## Adjusting the Volume

Learners can adjust the volume of the simulator sounds by using the hotkeys on the simulator keyboard.

To increase the volume, press the **Ctrl** key and the **Up** arrow on the simulator keyboard simultaneously until the desired volume is achieved.

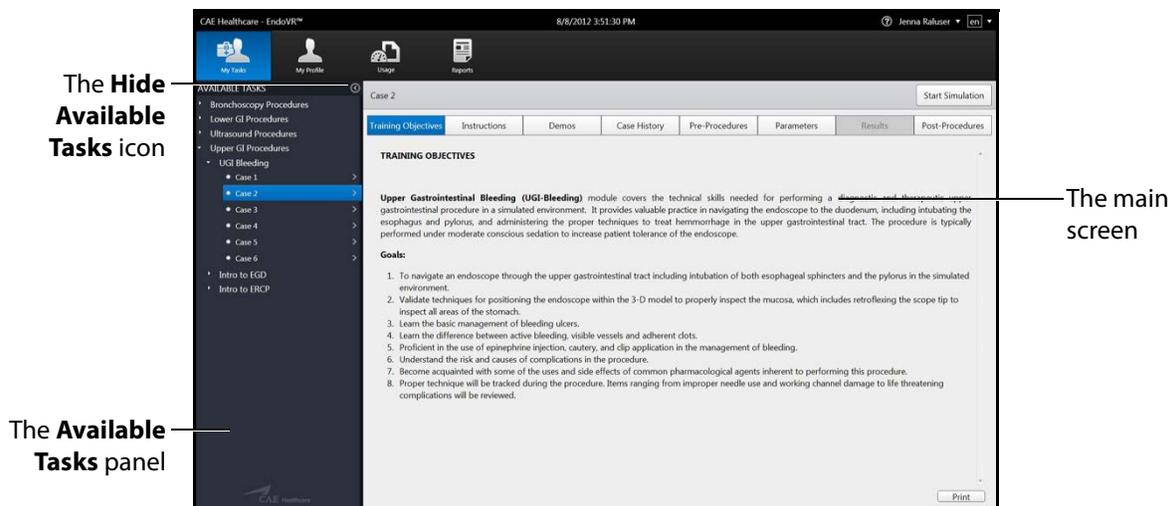
To decrease, press the **Ctrl** key and the **Down** arrow on the simulator keyboard simultaneously until the desired volume is achieved.

## Hiding the Available Tasks Panel

Learners can hide the Available Tasks panel to view the didactic content in full screen mode.

To hide the Available Tasks panel:

1. From the icon dashboard, click the **My Tasks** icon.
2. From the **Available Tasks** panel, select the desired task.



**The Home Screen**

The didactic content appears in the main screen.

3. Click the **Hide Available Tasks** arrow.

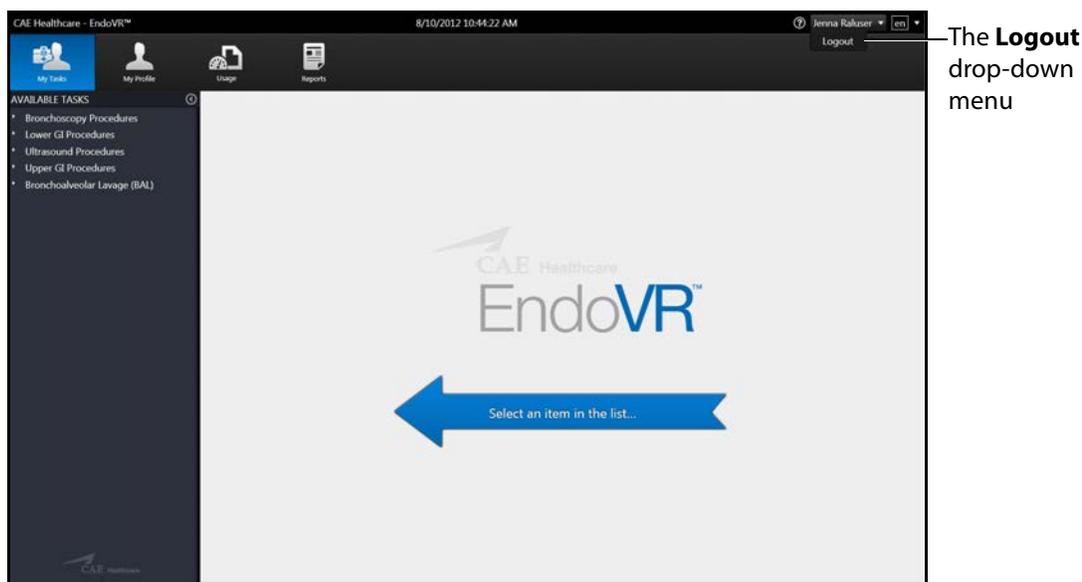
The didactic content expands to the width of the full main screen.

# Exiting the Software

Learners should log out of the software once they are completed with their training session.

To exit the software:

1. Click on the username in the top right corner of the screen.  
The logout drop-down menu appears.



**The Home Screen with Logout Drop-Down Menu**

2. Select **Logout** from the drop-down menu.  
The login screen appears.



**The Login Screen**

The user account is logged out and the simulator is ready for the next user.

# APPENDIX A - MODULE DESCRIPTIONS

The EndoVR simulator contains several modules for learners to practice performing endoscopic and bronchoscopic procedures using different techniques and tools. Modules are bundled in three packages: Bronchoscopy, Lower GI and Upper GI.

The following table outlines the various modules offered for the EndoVR simulator.

Package	Module	Description
Bronchoscopy	EBUS-TBNA	Complete an Endobronchial Ultrasound with Trans-bronchial Needle Aspiration.
	Intro to BAL	Complete common tasks performed during a bronchoalveolar lavage.
	Intro to Bronch	Complete common tasks performed during a bronchoscopic procedure.
	Ped Diff Airways	Perform bronchoscopic procedure tasks involving a pediatric difficult airways.
	Bronch Sampling	Complete common tasks performed during a bronchial sampling
	Bronch TBNA	Complete common tasks performed during a transbronchial needle aspiration.
Lower GI	Biopsy	Complete common tasks involved in a lower gastrointestinal biopsy.
	Intro to Colonoscopy	Complete common tasks involved in a colonoscopy.
	Intro to Flex Sig	Complete common tasks involved in viewing the pathologies using a flexible sigmoidoscopy.
	Polypectomy	Complete common tasks involved in a lower gastrointestinal polypectomy.
Upper GI	Bleeding	Complete common tasks involved in treating upper gastrointestinal bleeding.
	Intro to EGD	Complete common tasks involved in an esophagogastroduodenoscopy.
	Intro to ERCP	Complete common tasks involved in an endoscopic retrograde cholangiopancreatography.

# Module Instruments and Required Equipment

In each of the modules, different instruments, medication and equipment are used to complete the selected task.

## Bronchoscopy

The Bronchoscopy modules present the learners with different scenarios and cases to complete using the bronchoscope and related tools

Module	Available Instruments	Medications	Required Equipment
EBUS-TBNA	<ul style="list-style-type: none"> <li>• Needle</li> <li>• Stylet</li> <li>• Syringe</li> </ul>	<p><b>Topicals:</b></p> <ul style="list-style-type: none"> <li>• Saline</li> <li>• Lidocaine</li> </ul> <p><b>IV Medications:</b></p> <ul style="list-style-type: none"> <li>• Fentanyl</li> <li>• Meperidine</li> <li>• Midazolam</li> <li>• Naloxone</li> </ul>	<ul style="list-style-type: none"> <li>• EBUS-TBNA accessory tool</li> <li>• Bronchoscope</li> </ul>
Intro to BAL	<ul style="list-style-type: none"> <li>• Needle</li> </ul>	<ul style="list-style-type: none"> <li>• Saline</li> <li>• Lidocaine</li> <li>• BAL</li> </ul>	<ul style="list-style-type: none"> <li>• Bronchoscope</li> <li>• Foot pedal</li> </ul>
Intro to Bronch	<ul style="list-style-type: none"> <li>• Needle</li> <li>• Suction</li> </ul>	<ul style="list-style-type: none"> <li>• Saline</li> <li>• Lidocaine</li> </ul>	<ul style="list-style-type: none"> <li>• Bronchoscope</li> <li>• Foot pedal</li> </ul>
Ped Diff Airways	<ul style="list-style-type: none"> <li>• Jaw Thrust</li> <li>• Suction</li> </ul>	<ul style="list-style-type: none"> <li>• Saline</li> <li>• Lidocaine</li> <li>• Ketamine</li> <li>• Halothane</li> </ul>	<ul style="list-style-type: none"> <li>• Bronchoscope</li> <li>• ET tube</li> <li>• Foot pedal</li> </ul>
Bronch Sampling	<ul style="list-style-type: none"> <li>• Brush</li> <li>• Needle</li> <li>• Forceps</li> <li>• Suction</li> </ul>	<ul style="list-style-type: none"> <li>• Saline</li> <li>• Lidocaine</li> <li>• EPI</li> </ul>	<ul style="list-style-type: none"> <li>• Bronchoscope</li> <li>• Foot pedal</li> </ul>

Module	Available Instruments	Medications	Required Equipment
Bronch TBNA	<ul style="list-style-type: none"> <li>• Needle</li> <li>• Suction</li> <li>• CT scan</li> </ul>	<ul style="list-style-type: none"> <li>• Saline</li> <li>• Lidocaine</li> <li>• EPI</li> </ul>	<ul style="list-style-type: none"> <li>• Bronchoscope</li> <li>• Foot pedal</li> </ul>

## Lower GI

The Lower GI modules present the learners with different scenarios and cases related to the lower GI tract. Learners use an endoscope and related tools to complete the procedures.

Module	Available Instruments	Medications	Required Equipment
Biopsy	<ul style="list-style-type: none"> <li>• Needle</li> <li>• Forceps</li> <li>• Syringe</li> <li>• Suction</li> <li>• Air/Water</li> </ul>	<p><b>Topicals:</b></p> <ul style="list-style-type: none"> <li>• Saline</li> <li>• Lidocaine</li> </ul> <p><b>IV Medications:</b></p> <ul style="list-style-type: none"> <li>• Fentanyl</li> <li>• Meperidine</li> <li>• Midazolam</li> <li>• Naloxone</li> </ul>	<ul style="list-style-type: none"> <li>• Upper/Lower GI accessory tool</li> <li>• Endoscope</li> </ul>
Intro to Colonoscopy	<ul style="list-style-type: none"> <li>• Suction</li> <li>• Air/Water</li> </ul>	<p><b>IV Medications:</b></p> <ul style="list-style-type: none"> <li>• Sedation</li> </ul>	<ul style="list-style-type: none"> <li>• Endoscope</li> </ul>
Intro to Flexible Sigmoidoscopy	<ul style="list-style-type: none"> <li>• Suction</li> <li>• Air/Water</li> </ul>	None	<ul style="list-style-type: none"> <li>• Endoscope</li> </ul>
Polypectomy	<ul style="list-style-type: none"> <li>• Needle</li> <li>• Forceps</li> <li>• Syringe</li> <li>• Suction</li> <li>• Air/Water</li> </ul>	<p><b>IV Medications:</b></p> <ul style="list-style-type: none"> <li>• Sedation</li> <li>• Counter Sedative</li> </ul>	<ul style="list-style-type: none"> <li>• Upper/Lower GI accessory tool</li> <li>• Endoscope</li> </ul>

## Upper GI

The Upper GI modules present the learners with different scenarios and cases related to the upper GI tract. Learners use an endoscope and related tools to complete the procedures.

Module	Available Instruments	Medications	Required Equipment
UGI Bleeding	<ul style="list-style-type: none"> <li>• Wire Grasper</li> <li>• Clip Applier</li> <li>• BICAP Probe</li> <li>• Injection Needles</li> <li>• Irrigation</li> <li>• Suction</li> <li>• Air/Water</li> </ul>	<b>IV Medications:</b> <ul style="list-style-type: none"> <li>• Fentanyl</li> <li>• Flumazenil</li> <li>• Meperidine</li> <li>• Midazolam</li> <li>• Naloxone</li> </ul>	<ul style="list-style-type: none"> <li>• Upper/Lower GI accessory tool</li> <li>• Endoscope</li> </ul>
Intro to EGD	<ul style="list-style-type: none"> <li>• Cytology brush</li> <li>• Forceps</li> <li>• Suction</li> <li>• Air/Water</li> </ul>	<b>IV Medications:</b> <ul style="list-style-type: none"> <li>• Sedation</li> <li>• Counter Sedative</li> <li>• Atropine Sulfate</li> </ul>	<ul style="list-style-type: none"> <li>• Upper/Lower GI accessory tool</li> <li>• Endoscope</li> </ul>
Intro to ERCP	<ul style="list-style-type: none"> <li>• Suction</li> <li>• Air/Water</li> <li>• Single lumen cannula</li> <li>• Thin tapered cannula</li> <li>• Sphincterotome</li> <li>• Spiked forceps</li> <li>• Hydrophilic guidewire</li> <li>• Instill contrast</li> </ul>	<b>IV Medications:</b> <ul style="list-style-type: none"> <li>• Sedation</li> <li>• Counter Sedative</li> <li>• Glucagon</li> <li>• Atropine Sulfate</li> </ul>	<ul style="list-style-type: none"> <li>• Upper/Lower GI accessory tool</li> <li>• Endoscope</li> <li>• Foot pedal</li> </ul>





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