



# ASCEND CV<sup>®</sup> Reporting Quick Start Guide

Version 5.0

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## About This Guide

This guide introduces the ASCEND CV® reporting interface, including:

- User interfaces and controls (displays, forms, buttons)
- Steps in the reporting workflow (opening a study, marking it as ready to be read, recording findings, signing the final report).
- Management of data imported from Hospital Information Systems (HIS) and clinical devices (ultrasound scanners, physiologic devices).

In addition to reviewing this guide, you should review the following documentation:

- Your reporting modules' online Usage Guides, titled:

*Echocardiography*  
*Vascular*  
*Nuclear Cardiology*  
*Cardiac Catheterization*  
*Electrophysiology*  
*Cardiac CT*  
*Cardiac MR*

which each contain multiple PDF presentations detailing how to use the reporting interface to prepare clinical reports.

Finally, you should consult with your Lab Administrator regarding documentation for the following user interfaces:

- Worklist interface for selecting a study for reporting
- Image review interface for reviewing images associated with a study

If you are a Lab or System Administrator that needs to configure, monitor, and maintain the ASCEND CV reporting application and user rights, then please refer to the separate *ASCEND CV Administration Quick Start Guide*.

## Using ASCEND CV

ASCEND CV is a valuable tool but is not a substitute for good clinical judgment. The physician signing a study assumes complete responsibility for ensuring the accuracy and completeness of a clinical report generated using the ASCEND CV software, including reviewing the report before signing it.

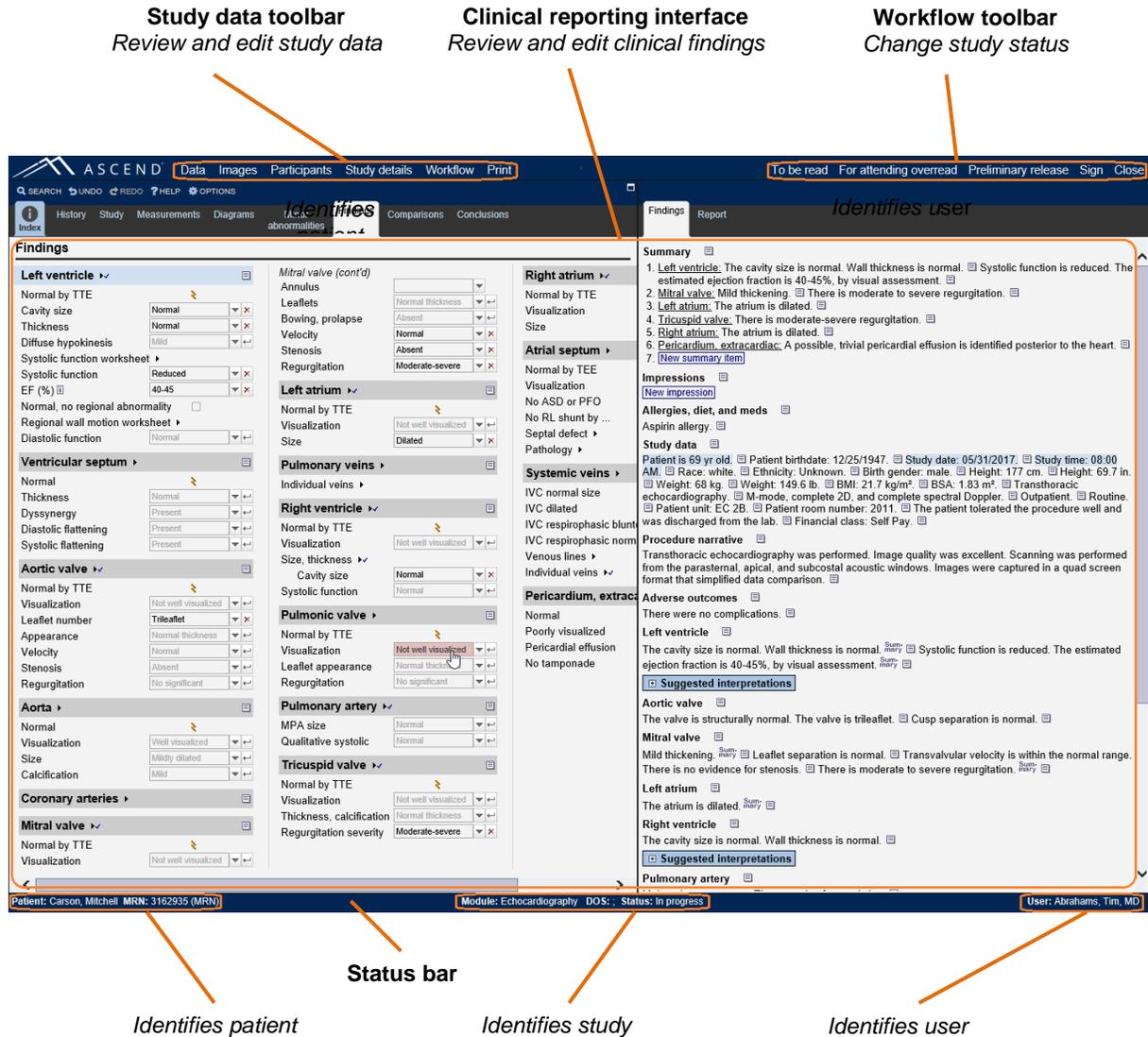
## Opening a Study for Reporting

The **worklist interface** lists the studies available for reporting. Depending on your system configuration, the worklist interface may be provided by your Hospital Information System (HIS), by your Electronic Medical Record system (EMR), or by ASCEND CV.

The exact steps for opening a study will vary depending on the specific worklist interface. Consult with your Lab Administrator for documentation regarding your system's worklist interface. The ASCEND CV worklist interface is described in *Appendix A* of this Guide.

# ASCEND CV Reporting Interface

Opening a study from the worklist displays the ASCEND CV reporting interface.



## Status Bar

The **status bar** at the bottom of the ASCEND CV reporting interface lists key information about the study:

- **Patient:** Patient name and medical record number (MRN)
- **Study:** Reporting module (Echo, Vascular, Cath, etc.), date of service (DOS), and study status
- **User:** User name

## Clinical Reporting Interface

The **clinical reporting interface** occupies the center of the ASCEND CV reporting screen. The tabs on the left side are used to enter data, and the tabs on the right side are used to review the findings in the clinical report.

The data entry tabs, their contents, and the result reporting process will vary depending on the reporting module. The reporting module *Quick Start Guides* and *Video Training Library* describe how to use the clinical reporting interface to prepare clinical reports.

## Study Data Toolbar

The **study data toolbar** is used to review and edit data related to the study.



### Data Button

Clicking the **Data** button displays the status of data imported from the Hospital Information System (HIS) and clinical devices, including:

- **Pending:** Data awaiting import into the study
- **Previous:** Data that has been imported into the study.

In the example below, an order from the HIS and a set of measurements from an ultrasound machine (TomTec DICOM Echo) have been automatically imported.

Data import					
Pending					Refresh
Source info	Patient info	MRN	Account number	Action	Information
No data available in table					
Previous					
Source info	Patient info	MRN	Account number	Action	Information
05/31/2017 12:03:58 AM TomTec DICOM Echo	Carson, Mitchell 12/25/1947	3162935	10041889	Reimport	Import status: Automatically imported
05/31/2017 12:03:55 AM HIS	Carson, Mitchell 12/25/1947	3162935	10041889	Reimport	Import status: Automatically imported Contents: New order
					Close

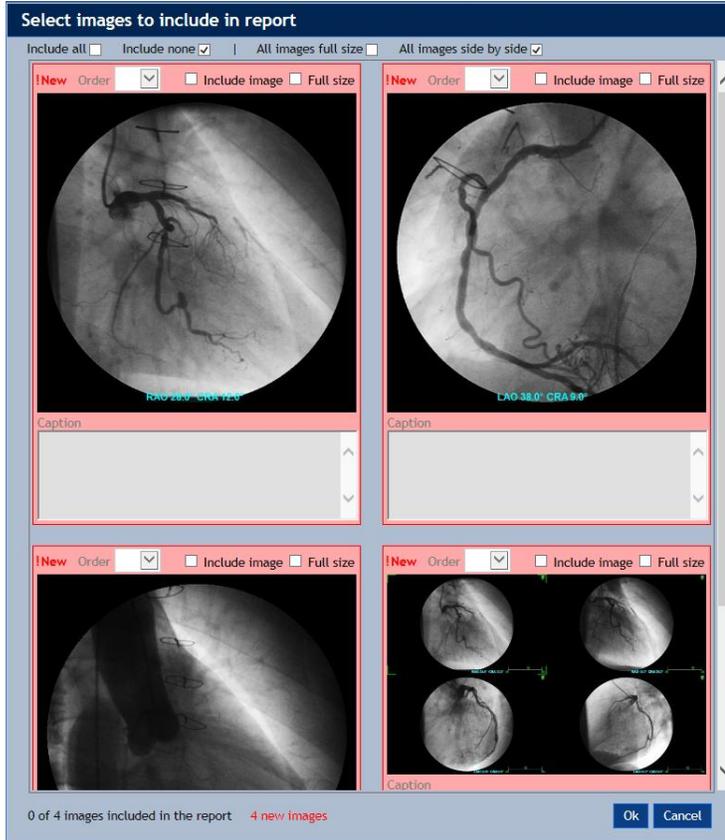
If the **Data** button is marked with a red exclamation point **Data**, then the study has pending data that has not yet been imported. The example below shows a pending import from an ultrasound machine (TomTec DICOM Echo). You should review all pending imports and use the **Import** button to

import the data or the **Decline** button to decline import (if, for instance, the data was sent by mistake).

Data import					
Pending					Refresh
Source info	Patient info	MRN	Account number	Action	Information
06/19/2016 12:03:29 AM TomTec DICOM Echo	Carson, Mitchell 12/25/1947	3162935	10041889	Import Decline	
Previous					
Source info	Patient info	MRN	Account number	Action	Information
06/19/2016 7:10:59 PM HIS	Carson, Mitchell 12/25/1947	3162935	10041889	Reimport	Import status: Automatically imported Contents: New order
					Close

## Images Button

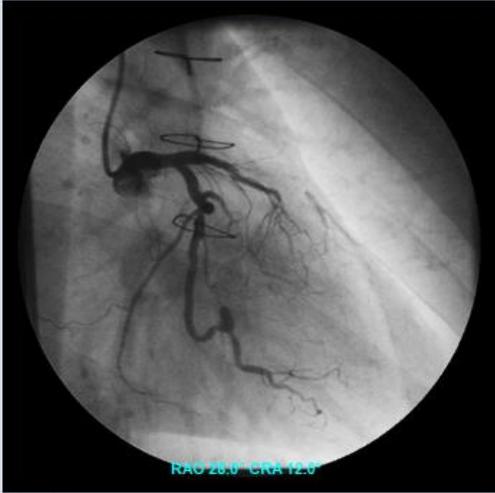
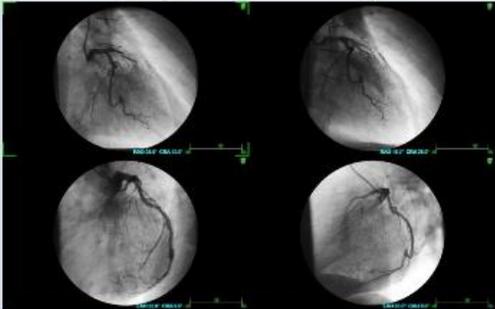
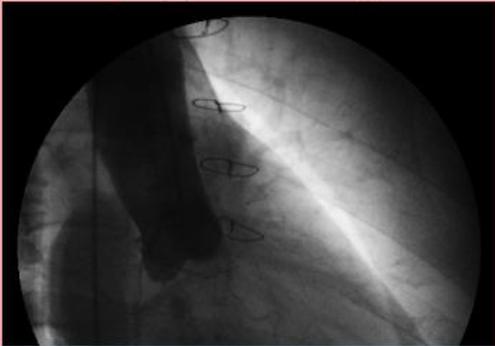
If there are new DICOM secondary capture images available for selective inclusion in the report, the Images button will display a red exclamation point **! Images**. Clicking the **Images** button displays the set of DICOM secondary-capture images associated with a study. The example below shows a set of secondary-capture images from a Cath study. Recently-added images are displayed within a red frame and include a **!New** marker to make them easy to locate.



You select the images you want to include on the report using the **Include all**, **Include none**, or **Include image** checkboxes.

**Select images to include in report**

Include all  Include none  | All images full size  All images side by side

<p><b>!New</b> Order 1 <input type="checkbox"/> <input checked="" type="checkbox"/> Include image <input type="checkbox"/> Full size</p>  <p>RAO 28.0° CRA 12.0°</p> <p>Caption</p> <input type="text"/>	<p><b>!New</b> Order 2 <input type="checkbox"/> <input checked="" type="checkbox"/> Include image <input type="checkbox"/> Full size</p>  <p>LAO 38.0° CRA 9.0°</p> <p>Caption</p> <input type="text"/>
<p><b>!New</b> Order 3 <input type="checkbox"/> <input checked="" type="checkbox"/> Include image <input type="checkbox"/> Full size</p>  <p>Caption</p> <input type="text"/>	<p><b>!New</b> Order <input type="checkbox"/> <input type="checkbox"/> Include image <input type="checkbox"/> Full size</p> 

3 of 4 images included in the report 4 new images

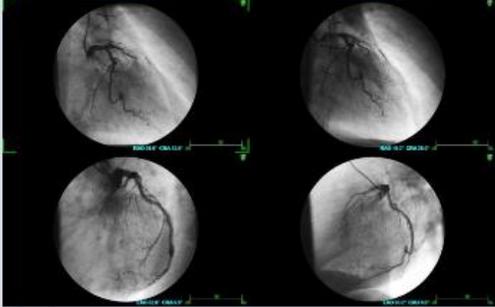
Ok Cancel

By default, images will be displayed on the report in the order you select them. You can use the **Order** field to change the order. As you change the values in the Order field, the images will be rearranged to reflect your specified ordering.

### Select images to include in report

Include all  Include none  | All images full size  All images side by side

**!New** Order 1  Include image  Full size



Caption

Empty text box for caption.

**!New** Order 2  Include image  Full size



Caption

Empty text box for caption.

**!New** Order 3  Include image  Full size



**!New** Order  Include image  Full size



3 of 4 images included in the report 4 new images

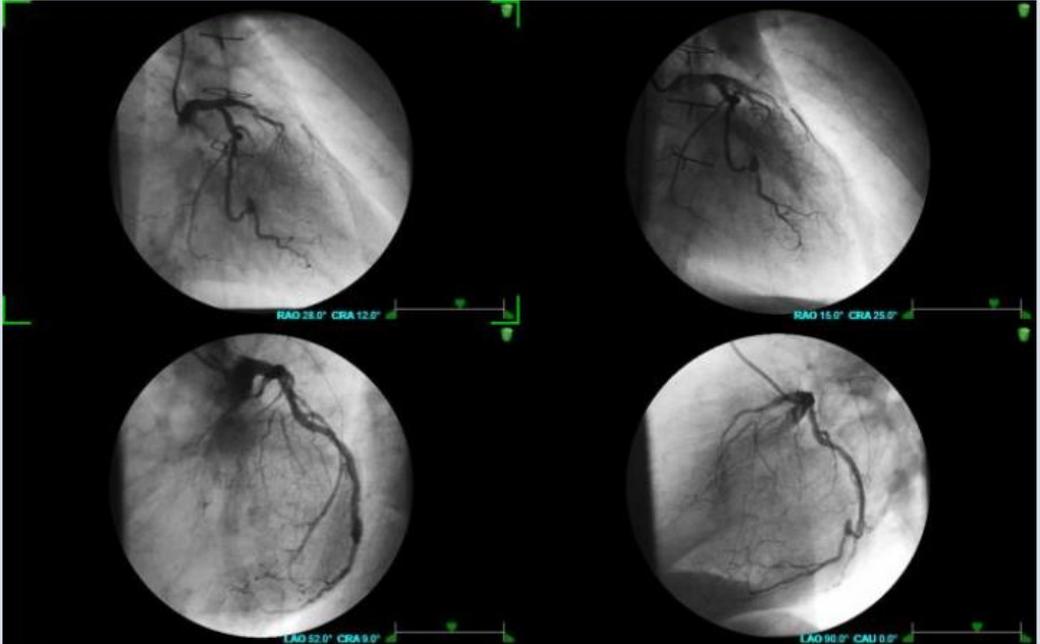
Ok Cancel

You can specify the image sizes using the **All images full size**, **All images side by side**, and **Full size** checkboxes, and you can add captions to the images using the **Caption** text boxes.

**Select images to include in report**

Include all  Include none  | All images full size  All images side by side

**!New** Order 1  Include image  Full size



Caption  
IMAGE #1: Full-width quad view

**!New** Order 2  Include image  Full size



**!New** Order 3  Include image  Full size



3 of 4 images included in the report 4 new images

Ok Cancel

The display of the images in the report matches their display in the **Images** panel.

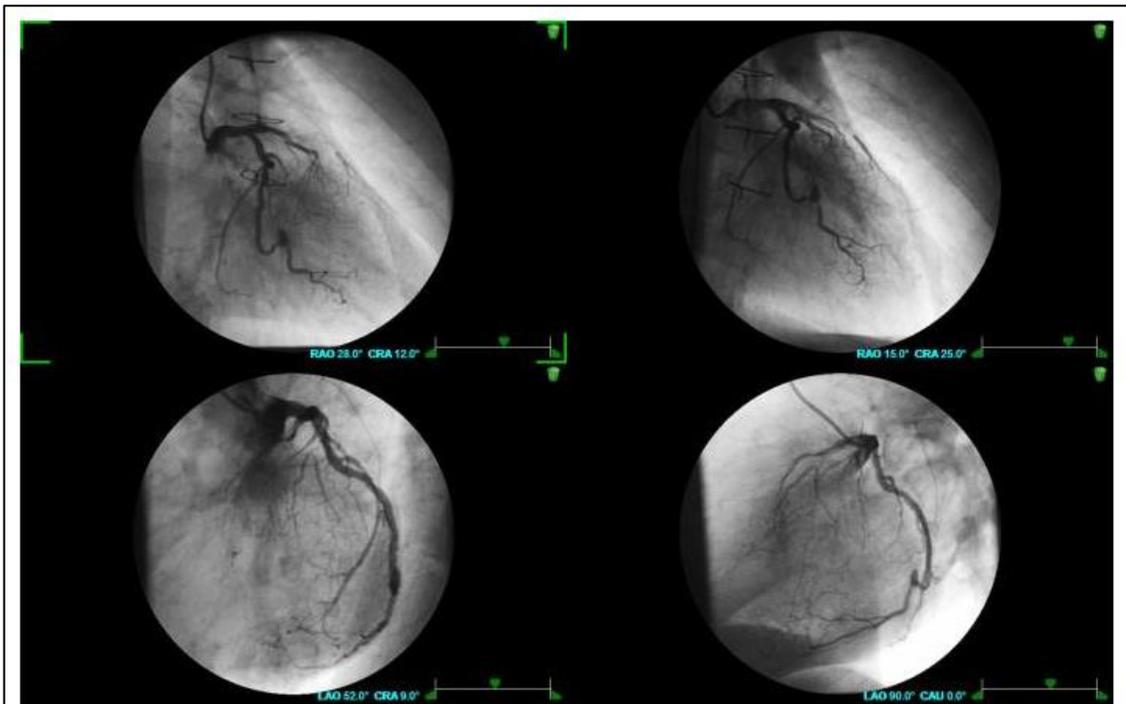


IMAGE #1: Full-width quad view



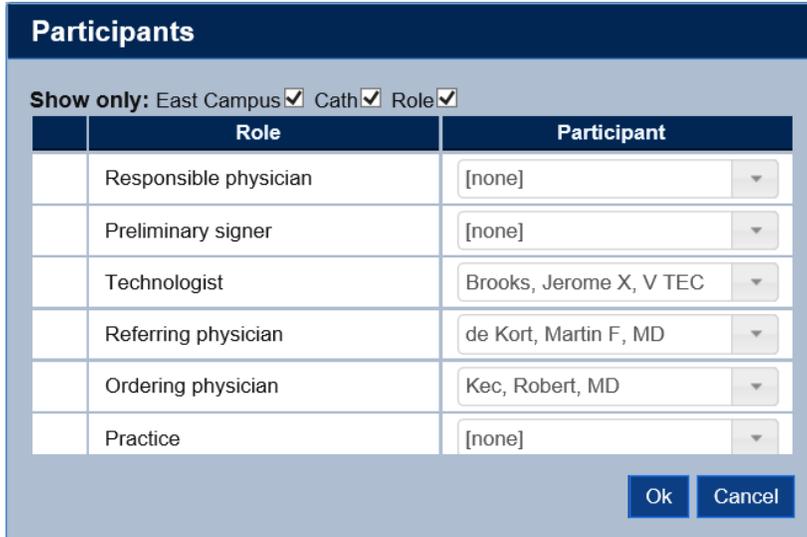
IMAGE #2: RAO



IMAGE #3: LAO

## Participants Button

Clicking the **Participants** button displays the set of participant roles associated with the study, including physicians, technicians, and other staff, as well as the practice of the *Responsible physician* (the physician who will sign the report).

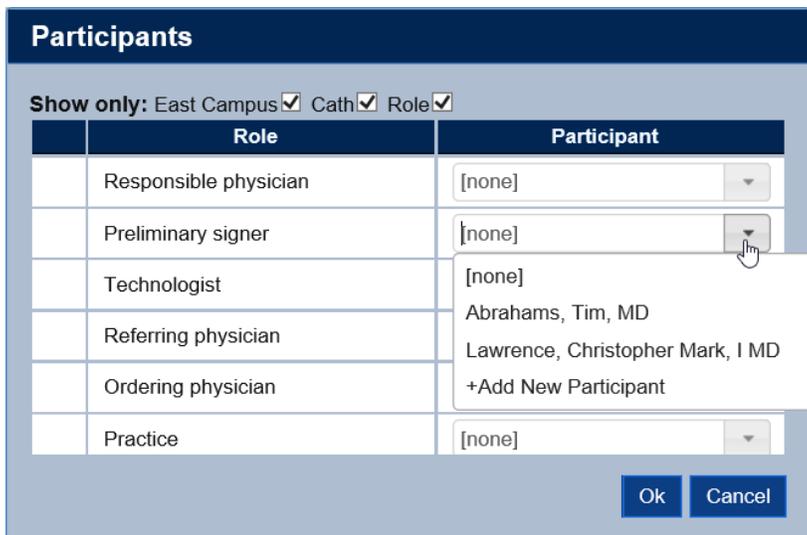


The screenshot shows a dialog box titled "Participants" with a header bar. Below the header, there are three checkboxes: "East Campus" (checked), "Cath" (checked), and "Role" (checked). Below these is a table with two columns: "Role" and "Participant". The table has six rows. The "Participant" column contains dropdown menus with the following values: "[none]", "[none]", "Brooks, Jerome X, V TEC", "de Kort, Martin F, MD", "Kec, Robert, MD", and "[none]". At the bottom right of the dialog are "Ok" and "Cancel" buttons.

Role	Participant
Responsible physician	[none]
Preliminary signer	[none]
Technologist	Brooks, Jerome X, V TEC
Referring physician	de Kort, Martin F, MD
Ordering physician	Kec, Robert, MD
Practice	[none]

You can use each role's **Participant list** to

- Remove a participant by selecting **[none]** from the list.
- Add a new participant by selecting **+Add New Participant** from the list and entering the new participant's name, ID, address, email, phone number, etc.
- Select one of participants in the list.



This screenshot is similar to the previous one, but the dropdown menu for the "Preliminary signer" role is open. The menu items are: "[none]", "Abrahams, Tim, MD", "Lawrence, Christopher Mark, I MD", and "+Add New Participant". A mouse cursor is pointing at the dropdown arrow.

Role	Participant
Responsible physician	[none]
Preliminary signer	[none] Abrahams, Tim, MD Lawrence, Christopher Mark, I MD +Add New Participant
Technologist	[none]
Referring physician	[none]
Ordering physician	[none]
Practice	[none]

You can filter the participant list by typing part of a name into the text box (e.g., "Law" in the example above). Checking the **Facility**, **Reporting module**, and **Role** checkboxes will filter the participant list to include only those participants who are associated with the specified facility, reporting module, and role.

If the **Participant** button is marked with a red exclamation point **!**, then there are required participants that have not been specified. The required participant roles are marked with a red exclamation point **!** (Sonographer, in the example below). All required participants should be specified before a report is signed.

Participants	
Show only: East Campus <input checked="" type="checkbox"/> Pediatric Echo <input checked="" type="checkbox"/> Role <input checked="" type="checkbox"/>	
Role	Participant
Responsible physician	[none]
Preliminary signer	[none]
<b>!</b> Sonographer	[none]
Ordering physician	Abrahams, Tim, MD
Practice	[none]

**! These fields are required**

Ok Cancel

ASCEND CV is designed to reduce the likelihood that duplicate providers are created. For example, if during reporting, a clinician adds a provider that is a likely duplicate, they will be prompted to confirm whether this is actually an existing provider or whether a new provider should be created.

In the example below, the clinician attempts to add a new responsible physician – Rob McDavid, MD – for the study whose last name and first character of the first name match an existing provider, Robert McDavid, MD:

Participants	
Show only: East Campus <input checked="" type="checkbox"/> Cath <input checked="" type="checkbox"/> Role <input checked="" type="checkbox"/>	
Role	Participant
Responsible physician	[none]
Preliminary signer	[none]
<b>!</b> Technologist	Abrahams, Tim, MD Lawrence, Christopher Mark, I MD
Referring physician	+Add New Participant
Ordering physician	Kec, Robert, MD
Practice	[none]

**! These fields are required**

Ok Cancel

In this case the user can use the dropdown menu to either add a new Rob McDavid or select the existing Robert McDavid as responsible physician:

## Study Details Button

Clicking the **Study details** button displays detailed information regarding the study and the patient. The fields with white data entry boxes are editable. The remaining information is presented for review only.

**Study details**

Patient: Carson, Mitchell

Study Patient

**Admission**

Account number	10041889
Arrival date/time	02/13/2013 12:21 PM
Admission	Observation

**Order**

Accession number	12453
Study instance UID	1.2.276.0.48.10002.9611523773214.20080305185623109347
Placer order number	36099144
Order date/time	02/13/2013 09:40 AM
Universal service ID	TEE(CardiacEchoca20)
Urgency	<input type="text"/>

**Case**

Lab discharge date/time	<input type="text"/>
Location performed	88
Procedure room	2011

**Study**

Start date/time	02/13/2013 09:01 AM
End date/time	02/13/2013 09:40 AM

Ok Cancel

**Study details**

Patient: Carson, Mitchell

Study Patient

MPI

MRN 3162935 (MRN)

SSN 184-38-9676

DOB 12/25/1947

Birth gender Male

Race White

Ethnicity

Marital status Married

Death date/time

Email

Phone # (603)400-500

Business #

Address 603 THUNDER DR  
PRESCOTT, AZ 863035088

Ok Cancel

If the **Study details** button is marked with a red exclamation point **!**, then there are required study details that have not been specified. The required fields are marked with a red exclamation point **!** (study start date/time, in the example below). All required study detail fields should be specified before a report is signed.

### Study details

Patient: Carson, Mitchell

! Study Patient

**Admission**

Account number 10041889  
 Arrival date/time 02/13/2013 12:21 PM  
 Admission Observation

**Order**

Accession number 12453  
 Study instance UID  
 Placer order number 36099144  
 Order date/time 02/13/2013 09:40 AM  
 Universal service ID TEE(CardiacEchoca20)  
 Urgency

**Case**

Lab discharge date/time   
 Location performed   
 Procedure room 2011

**Study**

! Start date/time   
 End date/time

! The field is required

Ok Cancel

## Workflow Button

Clicking the **Workflow** button displays a list of events related to the study – including study creation, data imports, editing sessions, and study status changes.

### Workflow events

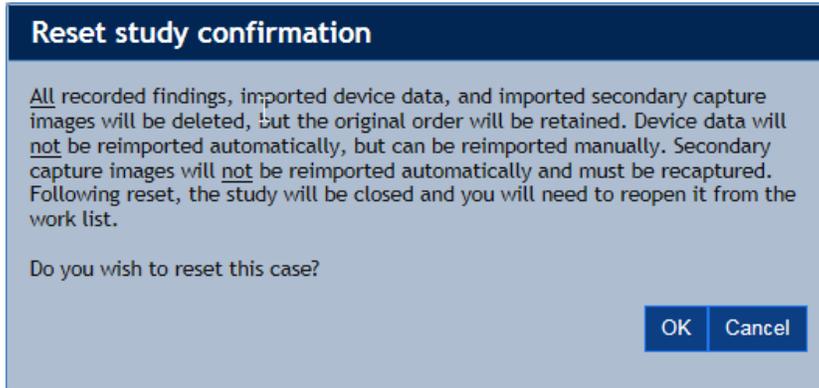
Date/time	User	Event	Details
05/30/2017 6:49 PM	Brooks, Jerome X, V TEC	Study status changed	To: In progress
05/30/2017 6:49 PM	Brooks, Jerome X, V TEC	Study opened for edit	
05/30/2017 6:50 PM	Brooks, Jerome X, V TEC	External data imported to study	Source: HIS (5/30/2017 6:45:56 PM)
05/30/2017 6:50 PM	Brooks, Jerome X, V TEC	External data imported to study	Source: TomTec DICOM Echo (5/30/2017 7:15:29 AM)
05/30/2017 6:50 PM	Brooks, Jerome X, V TEC	Study status changed	To: To be read
05/30/2017 6:51 PM	Abrahams, Tim, MD	Study status changed	To: To be read

Reset study Close

In rare instances, you may need to use the **Reset study** button to return a study to the state immediately after it was created. Note that resetting a study deletes all data imported from clinical devices, including images, and all recorded findings. When a study is reset, all secondary capture images must be recaptured or retransmitted from the image viewer.

You might reset a study, for instance, if an incomplete/incorrect data import was done or if a large number of incorrect findings were inadvertently recorded in a previous reporting session. Note that the clinical reporting interface's **Undo** button can be used to remove incorrect findings immediately after they are added.

Studies may be automatically reset before being opened if either new data is received from a device that had previously sent data, or if a message was received that changed the reporting module of the study.



## Print Button

Clicking the **Print** button displays the reports associated with the study using the PDF viewer installed on your system (Adobe Reader® in the example below). Use the **Report selector** to choose the report to preview and click your PDF viewer's **Print** button to print the report.

**Print preview**

Report

Patient: Carson, Mitchell      MRN: 3162935 (MRN)      Study date: 07/23/2015 21:38      East Campus



**ASCEND General Hospital**  
 1234 Main St. Anywhere, USA 02345  
 Phone: (800) 555-1234  
 Fax: (800) 555-1235

---

**Transthoracic Echocardiography**  
 M-mode, complete 2D, and complete spectral Doppler

<b>Patient:</b> Mitchell Carson	<b>Study date:</b> 07/23/2015	<b>Height:</b>
<b>MRN:</b> #3162935 (MRN)	<b>Birth date:</b> 12/25/1947	<b>Weight:</b>
<b>Accession:</b> #12453	<b>Age:</b> 67 yr	<b>BSA:</b>
<b>Patient location:</b> EC 2B 2011	<b>Birth gender:</b> M	<b>BMI:</b>
<b>Study status:</b> Routine	<b>Gender identity:</b>	<b>HR:</b>
<b>Facility:</b> East Campus	<b>Patient status:</b> Outpatient	<b>BP:</b>

---

**Summary:**

- Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities.
- Ventricular septum:** Septal motion is dyssynergic.

---

**History and indications:** Allergies: Aspirin allergy.

---

**Study data:** Patient unit: EC 2B. Patient room number: 2011. **Study status:** Routine. **Procedure:** Transthoracic echocardiography was performed. Image quality was adequate. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. **Study completion:** The patient tolerated the procedure well.

---

**Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities. Wall motion score: 1.00.

**Ventricular septum:** Septal motion is dyssynergic.

**Aortic valve:** The valve is structurally normal. The valve is trileaflet. Cusp separation is normal. Transvalvular velocity is within the normal range. There is no stenosis. There is no regurgitation.

**Aorta:** **Aortic root:** The aortic root is not dilated.

**Mitral valve:** The valve is structurally normal. The leaflets are normal thickness. Leaflet separation is normal. Transvalvular velocity is within the normal range. There is no evidence for stenosis. There is no regurgitation.

**Left atrium:** The atrium is normal in size.

**Right ventricle:** The cavity size is normal. Systolic function is normal.

Close

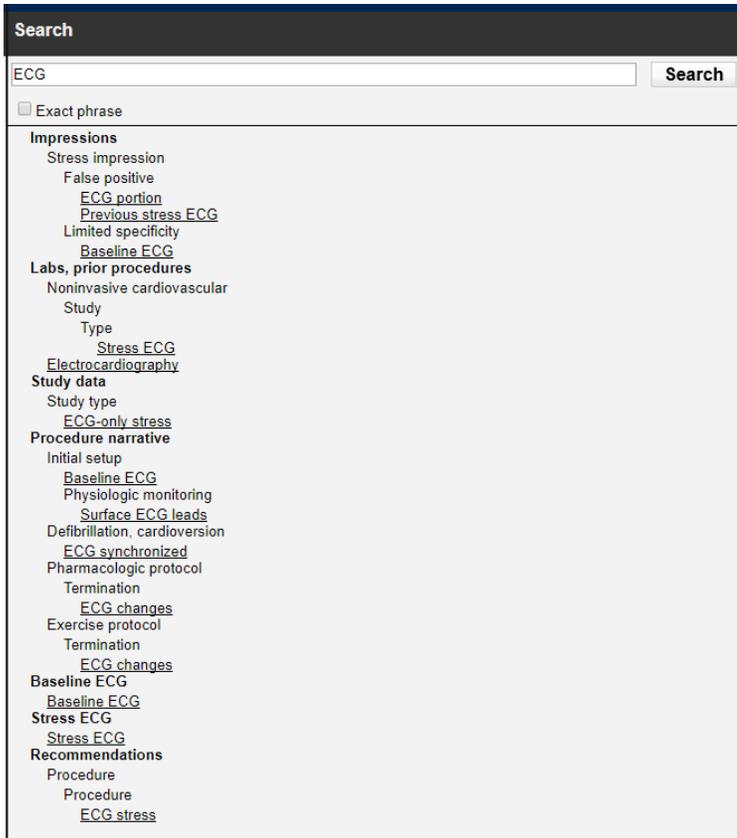
## Reporting Toolbar

The **Reporting Toolbar** is used to facilitate reporting in ASCEND CV.



## Search

If you cannot find an item in a report, you can make use of the **Search** option. Once you click on the Search button, a new screen will replace the report window where you can enter a search term. If any matches are found, they'll display here. Clicking on an element will open it up in the reporting window on the left.



## Undo and Redo

If you make a mistake while entering measurements or report data, you can click **Undo** to reverse the change. If you undo a change accidentally, you can reapply it by clicking **Redo**.

## Help

Clicking the **Help** button will launch a new window with documentation relating to the current study's reporting module. You can also view documentation for other modalities by clicking the Other Modalities link.

Echocardiography		Quick Start Guides
<b>Single-document introductions</b>		ASCEND CV reporting
Echocardiography reporting	PDF	ASCEND CV administration
Pediatric echocardiography reporting	PDF	
<b>Introduction</b>		
ASCEND overview	PDF	
Interface overview	PDF	
Study selection and tabs	PDF	
Reporting workflow	PDF	
Images in the report	PDF	
Signatures and amendments	PDF	
<b>Interface reference</b>		
Tabs and data entry	PDF	
Tables	PDF	
Finding and report viewers	PDF	
Search	PDF	
Index tab	PDF	
Editing sentences	PDF	
Free-text notes	PDF	
Voice recognition	PDF	
Suggested interpretations	PDF	
<b>Pediatric echocardiography</b>		
Congenital cardiac syndromes	PDF	
Fetal echocardiography	PDF	
		Other modalities

## Options

The **Options** menu allows you to change the **Font size** of the report and configure highlighting of findings in the **Viewer**. **About ASCEND CV** contains important version information about ASCEND CV and the reporting module of the current study.



## Support



If it's enabled, the Catalyst **Support** button will also display. The Catalyst Support button provides on demand "over the shoulder" support for clinicians who have questions or need assistance documenting a specific detail when completing their report. Catalyst's support feature is staffed by ASCEND's experienced clinical application and informatics specialists during normal business hours.

## Workflow Toolbar

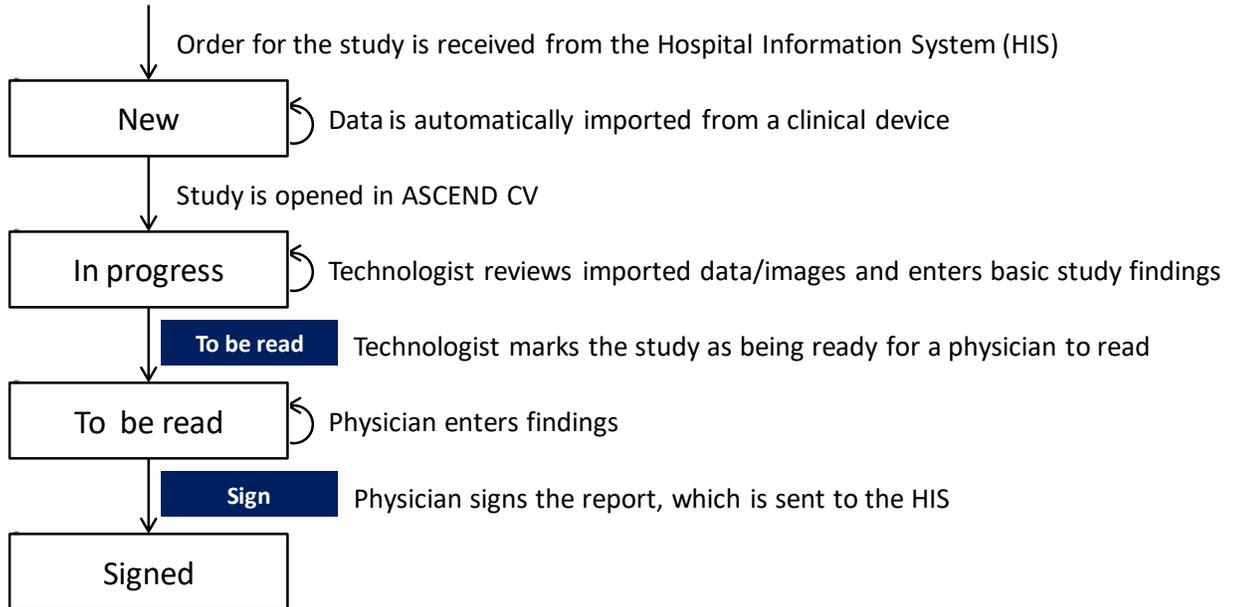
The **Workflow Toolbar** is used to move a study through the reporting workflow.



ASCEND CV can be configured to support a variety of workflows. In the following sections, we will review several of the more common workflows. Consult with your Lab Administrator regarding the reporting workflows used at your facility.

## Basic Reporting Workflow

The basic reporting workflow used in ASCEND CV is shown below. The boxes represent the statuses that a study passes through as the report is completed by a technologist and physician. The straight arrows represent actions that move the study from one status to the next. Loops indicate actions that change the study's data or findings, while keeping the study status unchanged.



Clicking the **To be read** button in the Workflow Toolbar moves the study from the status *'In progress'* to the status *'To be read'*, indicating to reading physicians that the study is ready to be read.

Clicking the **Close** button closes the ASCEND CV reporting interface. Note that recorded data is automatically saved as it is recorded; no explicit *Save* action is required.

Clicking the **Sign** button displays the completed report and asks for confirmation of signing. Clicking the **Confirm** button completes the signing process, including moving the study from the status 'To be read' to the status 'Signed', sending the signed report to the HIS and closing the ASCEND CV reporting interface.

Report signature confirmation



**ASCEND General Hospital**  
 1234 Main St. Anywhere, USA 02345  
 Phone: (800) 555-1234  
 Fax: (800) 555-1235

---

**Transthoracic Echocardiography**  
**M-mode, complete 2D, and complete spectral Doppler**

<b>Patient:</b> Mitchell Carson	<b>Study date:</b> 07/23/2015	<b>Height:</b>
<b>MRN:</b> #3162935 (MRN)	<b>Birth date:</b> 12/25/1947	<b>Weight:</b>
<b>Accession:</b> #12453	<b>Age:</b> 67 yr	<b>BSA:</b>
<b>Patient location:</b> EC 2B 2011	<b>Birth gender:</b> M	<b>BMI:</b>
<b>Study status:</b> Routine	<b>Gender identity:</b>	<b>HR:</b>
<b>Facility:</b> East Campus	<b>Patient status:</b> Outpatient	<b>BP:</b>

---

**Summary:**

- Left ventricle: The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities.
- Ventricular septum: Septal motion is dyssynergic.

---

**History and indications:** Allergies: Aspirin allergy.

---

**Study data:** Patient unit: EC 2B. Patient room number: 2011. Study status: Routine. Procedure: Transthoracic echocardiography was performed. Image quality was adequate. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. Study completion: The patient tolerated the procedure well.

---

**Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities. Wall motion score: 1.00.

**Ventricular septum:** Septal motion is dyssynergic.

---

*I have reviewed this report and assume responsibility for its accuracy and completeness.*

Confirm
Cancel

The confirmation dialog will display warning notices above the report if the study has

- Pending (unprocessed) device data that has not been imported or declined. These are listed in the **Pending** table on the **Data** form
- Required participants that have not been specified. These are marked with a red exclamation point (!) on the **Participants** form.
- Required study details that have not been specified. These are marked with a red exclamation point (!) on the **Study details** form.
- Required clinical findings that have not been recorded. These are marked with a red exclamation point (!) in the findings/report viewer.

- Pending (unprocessed) secondary-capture images that have not been selected or declined. These are listed on the **Image** form.

In addition, a precautionary notice will be displayed if the physician signing the study is different from the *Responsible physician* assigned to the study or is not a member of the practice assigned to the study.

Your system can be configured by your Lab administrator to

- Only display the confirmation dialog when such issues exist (in the absence of such issues, the report will be signed without confirmation).
- Require you to resolve some or all such issues before signing a study.
- Never display the confirmation dialog.

**Report signature confirmation**

**Notifications:**  
You are signing a study that has been assigned to Hibbert, Julius K, IV MD as the responsible physician

**Study details:** The following are required:  
Study start date/time

**Images:** The following are required:  
There are images that have not been reviewed

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Fax: (800) 555-1235

---

**Transthoracic Echocardiography**  
**M-mode, complete 2D, and complete spectral Doppler**

<b>Patient:</b> Mitchell Carson	<b>Study date:</b> 02/13/2013	<b>Height:</b> 177 cm
<b>MRN:</b> #3162935 (MRN)	<b>Birth date:</b> 12/25/1947	(69.7 in)
<b>Accession:</b> #12453	<b>Age:</b> 65 yr	<b>Weight:</b> 68 kg
<b>Patient location:</b> EC 2B 2011	<b>Birth gender:</b> M	(149.6 lb)
<b>Study status:</b> Routine	<b>Gender identity:</b>	<b>BSA:</b> 1.83 m <sup>2</sup>
<b>Facility:</b> East Campus		<b>BMI:</b> 21.7 kg/m <sup>2</sup>
		<b>Patient status:</b> Outpatient

---

**Summary:**

1. Left ventricle: The cavity size is normal. Wall thickness is normal. Systolic function is reduced. The estimated ejection fraction is 40-45%, by visual assessment.
2. Mitral valve: Mild thickening. There is moderate to severe regurgitation.
3. Left atrium: The atrium is dilated.
4. Tricuspid valve: There is moderate-severe regurgitation.
5. Right atrium: The atrium is dilated.
6. Pericardium, extracardiac: A possible, trivial pericardial effusion is identified posterior to the heart.

---

**History:** Allergies: Aspirin allergy.

---

**Study data:** Patient unit: EC 2B. Patient room number: 2011. Study status: Routine. Procedure: Transthoracic echocardiography was performed. Image quality was excellent. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. Images were captured in a quad screen format that simplified data comparison. Study completion: The patient tolerated the procedure well and was discharged from the lab. There were no complications.

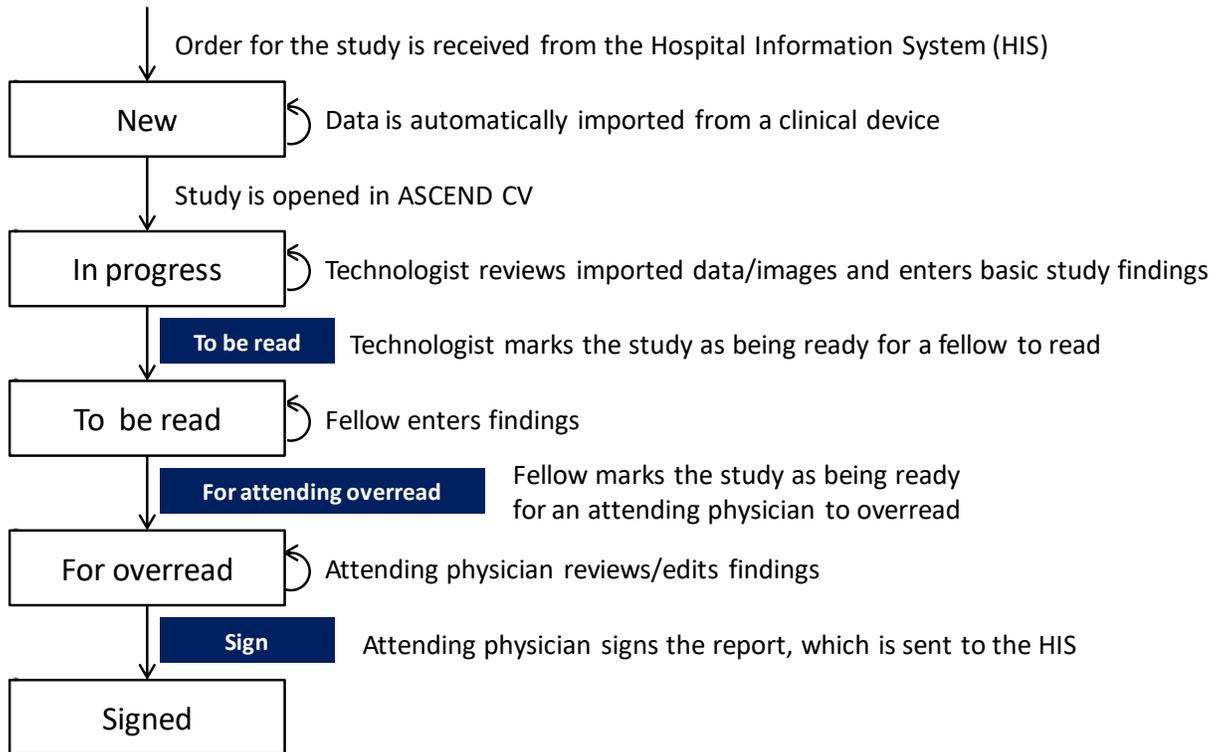
---

I have reviewed this report and assume responsibility for its accuracy and completeness.

Confirm
Cancel

## Overread Workflow

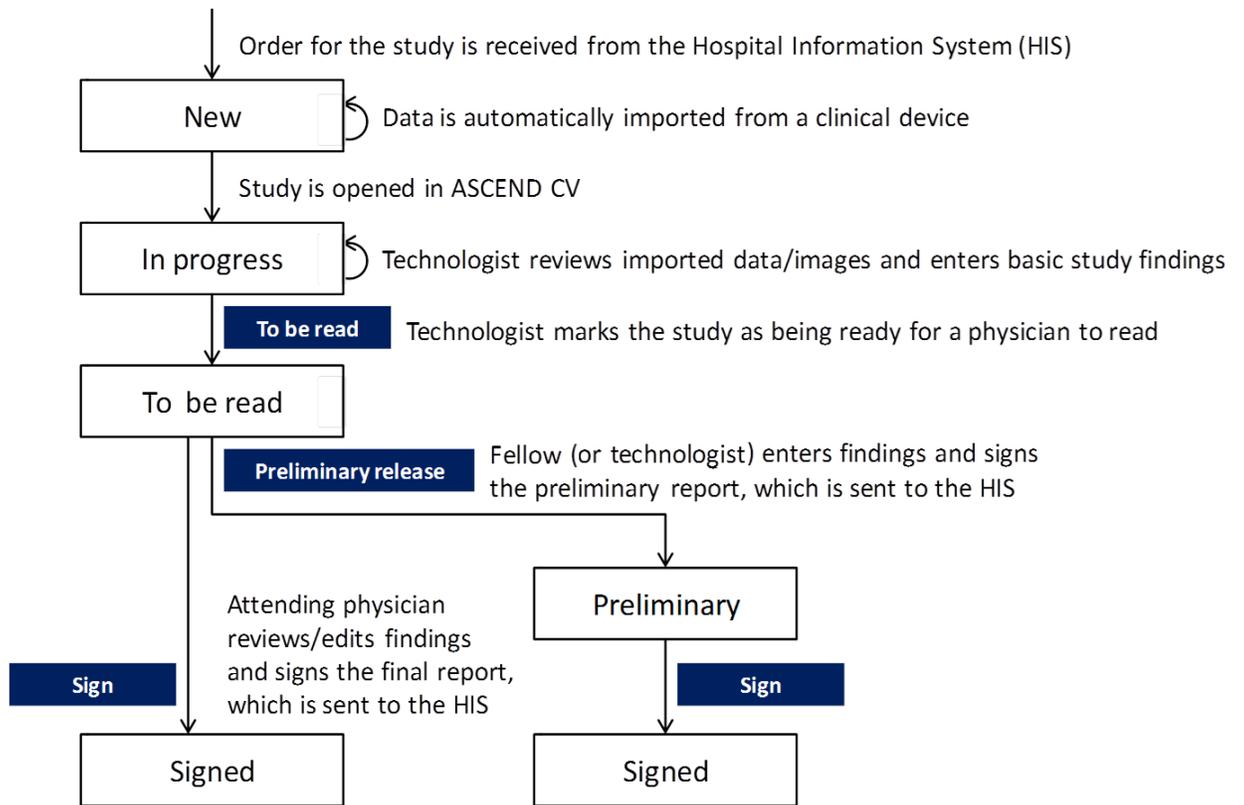
ASCEND CV can be configured to support a workflow that includes Cardiology fellows. In this workflow, a fellow creates an initial report and clicks the **For attending overread** button to move the study from the status *'To be read'* to the status *'For overread'*. An attending physician reviews and/or edits the report and signs it.



## Preliminary Report Workflow

ASCEND CV can be configured to support a workflow that uses preliminary reports. In this workflow, a fellow (or technologist) can create a preliminary report by clicking the **Preliminary release** button to sign the preliminary report and send it to the HIS. This moves the study from the status *'To be read'* to the status *'Preliminary'* (the right branch in the figure below). An attending physician then reviews and/or edits the report and signs it.

If a preliminary report was not created, the study remains in the *'To be read'* status and the attending physician edits the findings and signs the report (the left branch in the figure below).



It is possible for an ASCEND CV system administrator to customize the preliminary banner and also add additional text at the very top of a preliminary report, if the default banner is not sufficient. Also, custom mini-banner text can be configured for just above the preliminary report signature line.

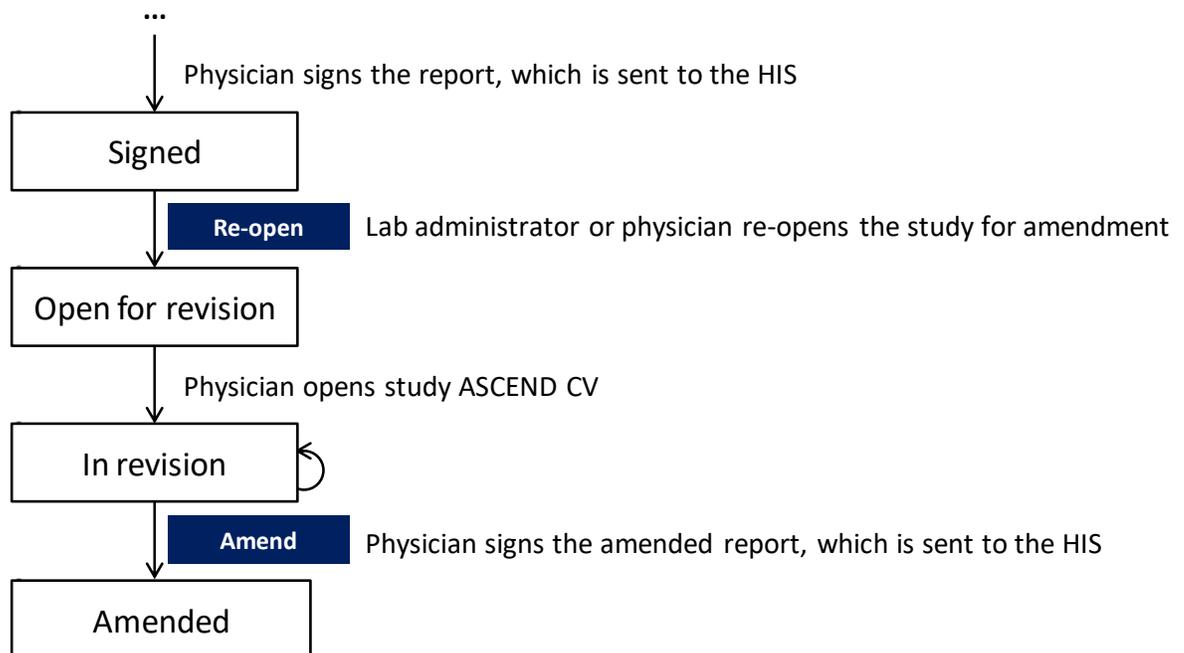
## Amendment Workflow

ASCEND CV allows for the amendment of a signed report, where the amendment process can be configured to include any or all of the following:

- Whether or not the amending user must enter a reason for amending the report, purely for noting in the audit log and not shown on the amended report. By default, this is required.
- Adding a block of text as an addendum to the report. ASCEND CV can be configured to require an addendum on every amended report. In addition, the position of the addendum within the report itself can be configured. By default, this is required.
- Modifying a report by adding missing findings and/or deleting incorrect findings. ASCEND CV can be configured to either permit or prevent the modification of report findings during the amendment process. By default, this is permitted.

The physician that signed a report is always allowed to open that same report for amendment. The ability to initiate the amendment of any type of report at one or more facilities is also granted to lab administrators.

Note that ASCEND CV retains copies of all signed reports (preliminary, signed, and amended).



When a signed study is opened, ASCEND CV displays the signed report.

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**Transthoracic Echocardiography  
Limited 2D**

**Patient:** Mitchell Carson  
**MR Number:** TB0001  
**Age:** 58 yr  
**Birth Date:** December 25, 1947  
**Study Date:** November 20, 2011

**Ordering physician:** Michael Edwards, MD  
**Referring physician:** Mary Martin, MD  
**Height:** .  
**Weight:** .  
**Archive ID:** CTH-12345

**Summary:**

1. **Right atrium:** The atrium is dilated.
2. **Left atrium:** The atrium is dilated.
3. **Tricuspid valve:** There is moderate-severe regurgitation.
4. **Mitral valve:** There is moderate to severe regurgitation.
5. **Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is reduced. The estimated ejection fraction is 40-45%, by visual assessment.
6. **Pulmonary arteries:** Systolic pressure is moderately increased,  $\geq 50$  mm Hg.
7. **Pericardium, extracardiac:** A possible, trivial pericardial effusion is identified posterior to the heart. There is a moderate-sized left pleural effusion.

**Study data:** **Study status:** Elective. **Procedure:** Transthoracic echocardiography was performed. Image quality was fair. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. Images were captured in a quad screen format that simplified data comparison. **Study completion:** The patient tolerated the procedure well and was discharged from the lab. There were no complications.

**Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is reduced. The estimated ejection fraction is 40-45%, by visual assessment.

**Aortic valve:** The valve is structurally normal. The valve is trileaflet. Cusp separation is normal.

**Aorta:** **Aortic root:** The aortic root is not dilated.

**Mitral valve:** The leaflets are mildly thickened. Leaflet separation is normal. **Doppler:** Transvalvular velocity is within the normal range. There is no evidence for stenosis. There is moderate to severe regurgitation.

**Left atrium:** The atrium is dilated.

**Right ventricle:** The cavity size is normal. Wall thickness is normal.

**Right atrium:** The atrium is dilated.

Patient: Carson, Mitchell MRN: 3162935 (MRN) Module: Echocardiography DOS: 01/24/2013 07:39 AM, Status: Signed User: Abrahams, Tim, MD

Clicking the **Re-open** button initiates the amendment process, and requests a reason that the study is being re-opened for amendment. Note that the reason must be provided. However, it is only listed in the audit log and not displayed on the report.

**Re-open for amendment**

Reason for amendment -- This information is not shown on the amended report

Failed to classify aortic regurgitation.]

Close Close this window and leave the study for physician to amend

Addendum -- This information is shown on the amended report

Addendum text is required

Sign Sign study without editing findings

Edit report Open the study for editing

Cancel

If ASCEND CV has been configured to permit editing of report findings during the amendment process, then an **Edit report** button will be displayed at the bottom of the “Re-Open for amendment” dialog (as shown above).

The Amendment dialog can also be closed, leaving the report in a state where another physician can amend it; but more often the same user that has re-opened the report for amendment will do one of the following:

- Add addendum text and re-sign the report as amended
- or further edit the report body with or without addendum text (if so configured)

**Re-open for amendment**

Reason for amendment -- This information is not shown on the amended report  
Failed to classify aortic regurgitation.

**Close** Close this window and leave the study for physician to amend

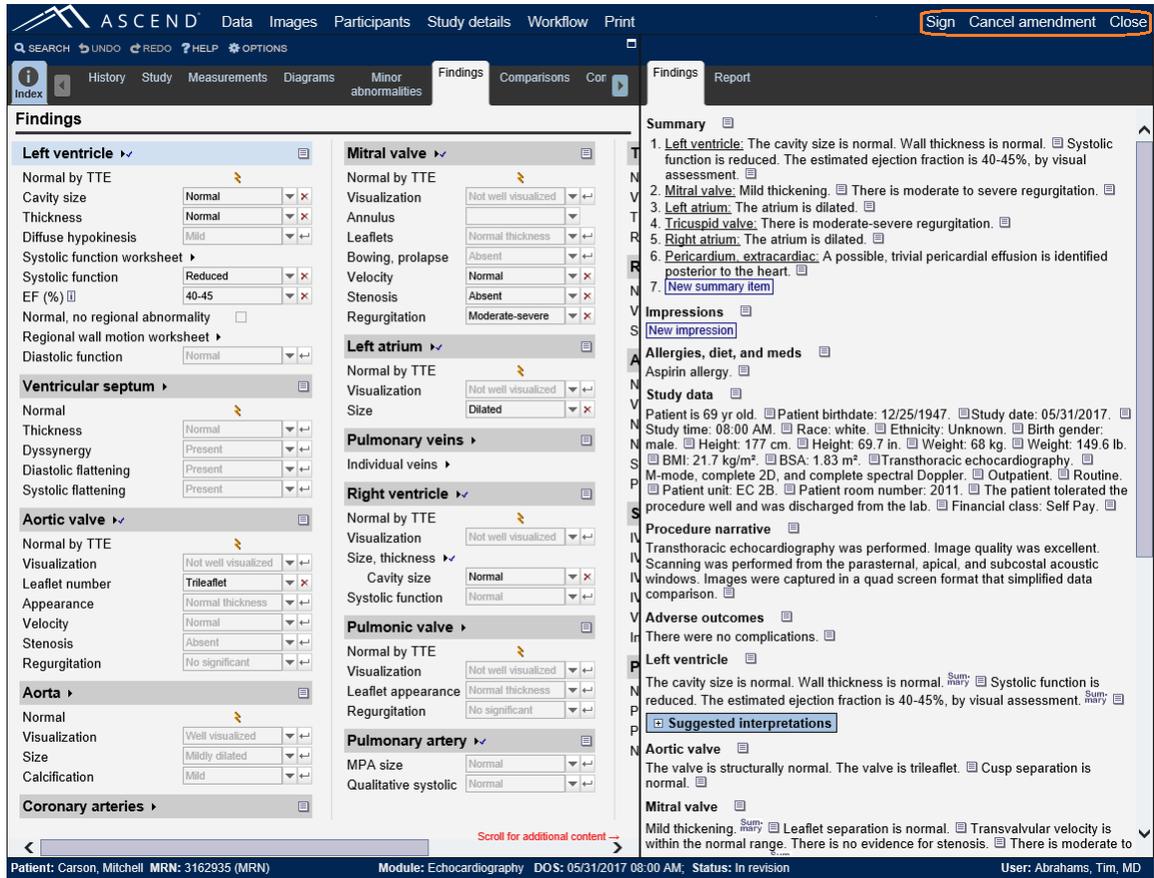
Addendum -- This information is shown on the amended report  
This addendum text is optional but must be entered to sign the study without editing the report.

**Sign** Sign study without editing findings

**Edit report** Open the study for editing

**Cancel**

Clicking the **Edit report** button changes the study status to *'Open for revision'* and opens the report for further editing. Buttons in the top-right allow the physician to sign the amended report, cancel the amendment process, or close the report in-progress, allowing the editing and amendment to be completed later:



Note that when a study is re-opened to allow editing of report findings, the patient and order information will automatically be updated to reflect any changes sent by the Hospital Information System (if the patient's address has changed since the original report was signed, for instance). Confirm that the patient and order information is accurate for the study being amended and, if necessary, manually edit this information.

Clicking the **Sign** button on either the **Amend report** form or the ASCEND CV reporting interface displays the amended report (note the inclusion of an addendum below) and may ask for confirmation of signing. Clicking the **Confirm** button completes the amendment process, moving the study to the status 'Amended' and sending the amended report to the HIS.

Report signature confirmation



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---

**Transthoracic Echocardiography**  
**M-mode, complete 2D, and complete spectral Doppler**

<b>Patient:</b>	Mitchell Carson	<b>Study date:</b>	05/31/2017	<b>Height:</b>	177 cm
<b>MRN:</b>	#3162935 (MRN)	<b>Birth date:</b>	12/25/1947		(69.7 in)
<b>Accession:</b>	#12453	<b>Age:</b>	69 yr	<b>Weight:</b>	68 kg
<b>Patient location:</b>	EC 2B 2011	<b>Birth gender:</b>	M		(149.6 lb)
<b>Study status:</b>	Routine	<b>Gender identity:</b>		<b>BSA:</b>	1.83 m <sup>2</sup>
<b>Facility:</b>	East Campus			<b>BMI:</b>	21.7 kg/m <sup>2</sup>
				<b>Patient status:</b>	Outpatient

---

**Addendum:** This addendum text is optional but must be entered to sign the study without editing the report.

**Summary:**

1. **Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is reduced. The estimated ejection fraction is 40-45%, by visual assessment.
2. **Mitral valve:** Mild thickening. There is moderate to severe regurgitation.
3. **Left atrium:** The atrium is dilated.
4. **Tricuspid valve:** There is moderate-severe regurgitation.
5. **Right atrium:** The atrium is dilated.
6. **Pericardium, extracardiac:** A possible, trivial pericardial effusion is identified posterior to the heart.

---

**History:** Allergies: Aspirin allergy.

---

**Study data:** Patient unit: EC 2B. Patient room number: 2011. Study status: Routine. Procedure: Transthoracic echocardiography was performed. Image quality was excellent. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. Images were captured in a quad screen format that simplified data comparison. Study completion: The patient tolerated the procedure well and was discharged from the lab. There were no complications.

---

**Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is reduced. The estimated ejection fraction is 40-45%, by visual assessment.

**Aortic valve:** The valve is structurally normal. The valve is trileaflet. Cusp separation is normal.

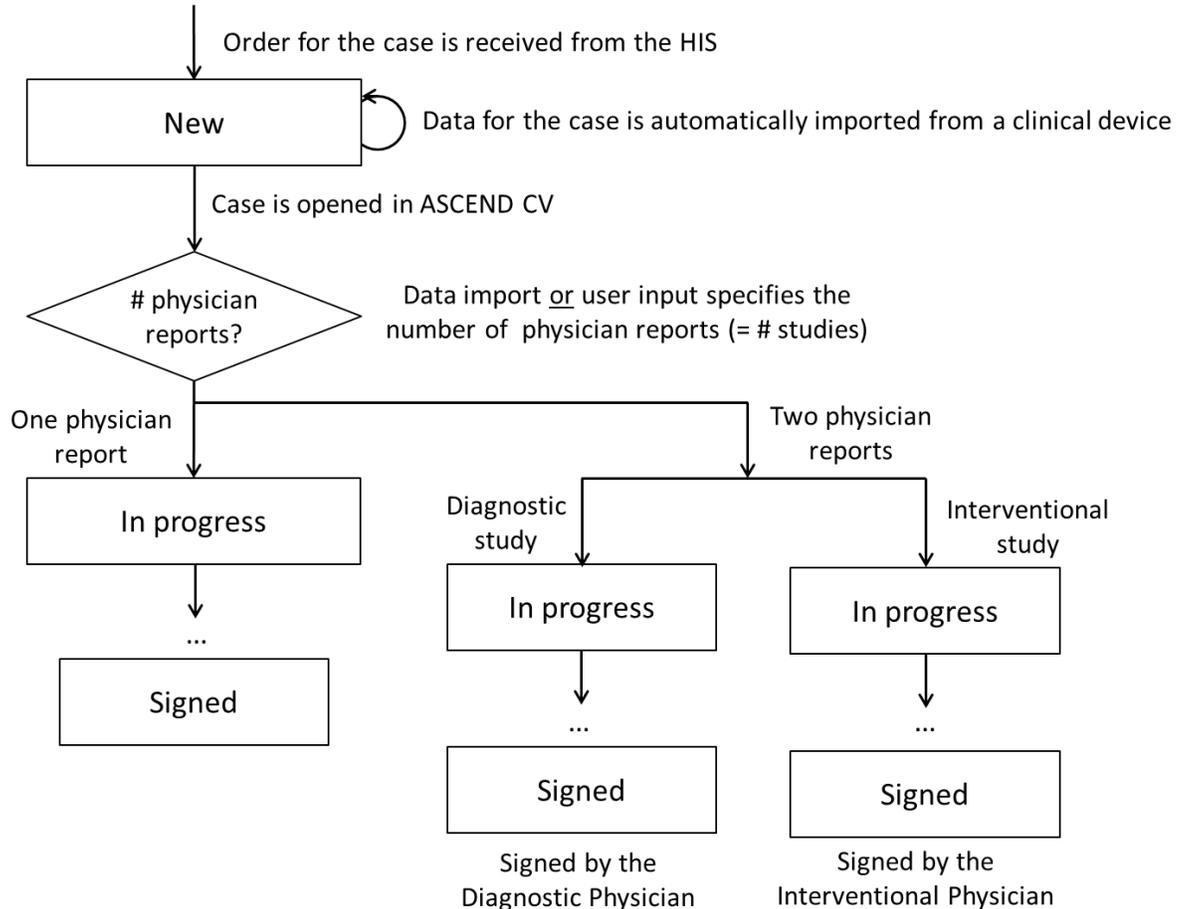
---

*I have reviewed this report and assume responsibility for its accuracy and completeness.*

Edit addendum
Confirm
Cancel

## “Split Case” Workflow

ASCEND CV can be configured to allow multiple physicians to report separately on a case. For example, a Cath case might consist of a diagnostic study performed by one physician followed by an interventional study performed by a different physician, where both studies share the same order (same accession number) and are recorded as a single case by the Cath lab’s physiologic monitoring system, but where each physician creates a report for their study.



Another two physician example includes a Nuclear Stress split case which is completed by a Stress ECG physician in combination with the Nuclear imaging cardiologist. In this case, the final combined report consists of the Stress ECG report with signature concatenated to the end of the Nuclear Imaging report with separate signature.

## Specifying the Number of Physician Reports for a Case

Usually for Cath cases, the number of physician reports is recorded by a clinical device and passed to ASCEND CV, prior to the case being opened for reporting in ASCEND CV. If the number of physician reports has not yet been specified when a case is opened in ASCEND CV, the user will be asked to specify this number.

Open study Patient: Howse, Milford Linton MRN: 1366354 (MRN)

How many physicians will report on this case?

One

More than one

Unknown at this time

Cancel

- Selecting “One” specifies that the case will have one physician report – or equivalently, one *Responsible physician*.
- Selecting “More than one” will “split” the case into two separate studies – each with its own report and *Responsible physician*.
- Selecting “Unknown” defers answering of this question until the next time a user opens the case in ASCEND CV. In the interim, reporting on the case will proceed as if there will be only one physician report.

Note that the number of physician reports must be specified before any reports for the case can be signed.

## Opening a Study in a Multi-study Case

If a case has multiple studies, ASCEND CV will display the following form for a Cath case:

Open study Patient: Howse, Milford Linton MRN: 1366354 (MRN)

Responsible physician	Type	Status	Import	Action
First, John	Diagnostic	In progress	Data available	Open
Second, Joan	Interventional	Never opened	Data available	Open

Manage studies Cancel

- Selecting an **Open** button opens the associated study for reporting.
- Selecting the **Manage studies** button displays a form for editing a study's *Responsible physician* or *Study type* or for deleting a study. The following example is for a two physician Nuclear Stress case:

**Manage studies**
Patient: Radke, Phill MRN: 433627 (MRN)

Responsible physician	Type	Status	Action
de Kort, Martin F, MD	Stress ECG	In progress	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Lawrence, Christopher Mark, I MD	Nuclear Stress	In progress	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Note that this same form can be displayed during reporting by selecting the **Manage studies** button on the **Study data toolbar**.

### Completing a “Split” Case

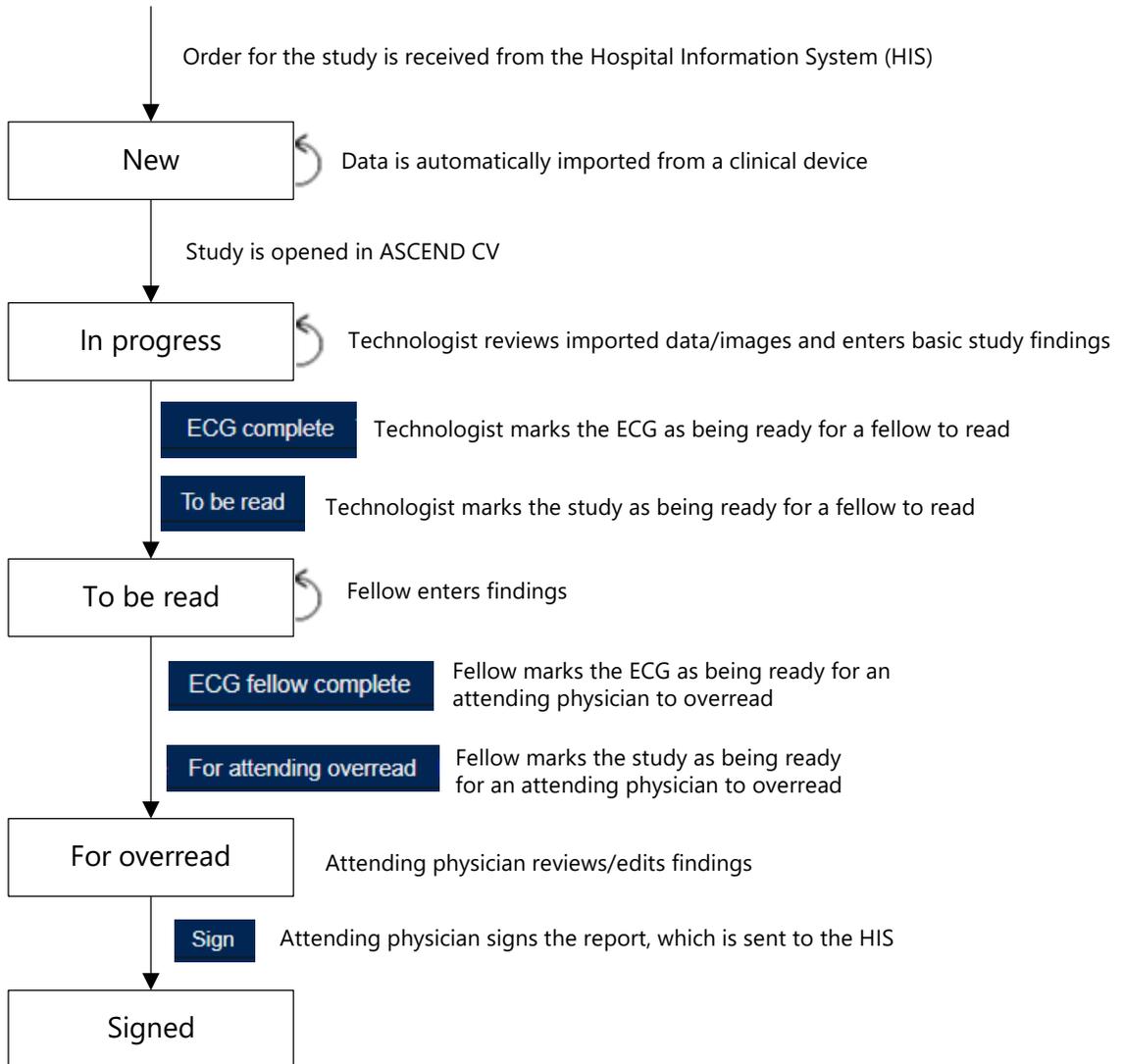
Each study proceeds separately through its own reporting workflow – including

- Data import, with the data imported divided between the two studies appropriately
- Data entry and review
- Signing

In the case of a Nuclear Stress split case, the Stress ECG study must be signed before the nuclear imaging portion can be signed. The final complete result consists of the Stress ECG report concatenated to the end of the Nuclear imaging report.

### Multiple Technician Workflow

ASCEND CV can be configured to support multiple technicians for Stress Imaging studies in any of the other workflows. In these workflow variants, one technician reports on ECG stress data, while another reports on imaging. Once the imaging has been reviewed, the **ECG complete** button marks the stress ECG review complete for the “To be read” status. If “For overread” is enabled and configured for multiple technicians, there will be an **ECG fellow complete** button that serves the same purpose for the fellow’s review. If these workflow steps are skipped, a warning message will appear that the ECG piece hasn’t been completed. However, they are optional and do not need to be clicked. if enabled. for a report to move onto the next step in the workflow.



## Force Closing Another User's Reporting Session

If you view a study that is already open for editing by another user, you will be presented with a report preview screen. From this screen, you can select the most recently saved version of the study or any previously confirmed or signed version for review.

The study is currently locked by Brooks, Jerome X, V TEC. Please try again later. Unlock Edit Close

Report - Current unsigned - Saved on 05/30/2017 20:30 Print

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Phone: (800) 555-1234  
Fax: (800) 555-1235

**Transthoracic Echocardiography**  
Bruce protocol  
M-mode, complete 2D, and complete spectral Doppler

**Patient:** Ralph Julius Lowell **Study date:** 02/15/2013 **Height:**  
**MRN:** #648379 (MRN) **Birth date:** 01/27/1943 **Weight:**  
**Accession:** #698aod964 **Age:** 70 yr **BSA:**  
**Patient location:** WC 4B 428 **Birth gender:** M **BMI:**  
**Study status:** Routine **Gender identity:** HR:  
**Facility:** East Campus **Patient status:** Outpatient **BP:**

**Summary:**

- Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities.
- Stress ECG conclusions:** Duke scoring: exercise time of 6.25 min; maximum ST deviation of 1.1 mm; ; resulting score is 1. This score predicts a moderate risk of cardiac events.

**History and indications:** **Allergies:** No known allergies.

**Study data:** Patient unit: WC 4B. Patient room number: 428. **Study status:** Routine. **Objective:** CP. **Procedure:** Transthoracic echocardiography was performed. Image quality was adequate. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. Treadmill exercise testing was performed using the Bruce protocol. The patient exercised for 6 min 15 sec, to a maximal work rate of 7.4 mets. Exercise was terminated due to fatigue. **Study completion:** The patient tolerated the procedure well.

**Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities. Wall motion score: 1.00.

**Aortic valve:** The valve is structurally normal. The valve is trileaflet. Cusp separation is normal. Transvalvular velocity is within the normal range. There is no stenosis. There is no regurgitation.

**Aorta:** **Aortic root:** The aortic root is not dilated.

**Mitral valve:** The valve is structurally normal. Leaflet separation is normal. Transvalvular velocity is within the normal range. There is no evidence for stenosis. There is no regurgitation.

**Patient:** Lowell, Ralph Julius **MRN:** 648379 (MRN) **Module:** Echocardiography **DOS:** 02/13/2013 09:01 AM **Status:** In progress **User:** Abrahams, Tim, MD

If your ASCEND CV lab administrator has configured the application to allow reporting users to force close other studies, you will also be presented with an **Edit** button near the top right. If you click on **Edit**, a notification will be displayed that the study is currently locked (open for edit) by another user:

The study is currently locked by Brooks, Jerome X, V TEC. Please try again later. Unlock Edit Close

If you click **Unlock** you will be presented with a confirmation dialog:

**Unlock study**

Lock held by user: Jerome X. Brooks V, TEC  
Idle time: 6 minute(s)

This will force the user out of the study. The user's last editing action may be lost. Do you want to continue?

OK Cancel

If you then click **OK**, you will have unlocked the study for editing by another user, including yourself. If you now click on the **Edit** button, you will succeed in opening the study for edit.

## Appendix A – ASCEND CV Worklist

Depending on your system configuration, your worklist interface may be provided by your Hospital Information System (HIS), by your Electronic Medical Record system (EMR), or by ASCEND CV. This Appendix describes the ASCEND CV worklist interface.

The **ASCEND CV worklist** displays the list of studies available for reporting or review.

The screenshot shows the ASCEND CV Worklist interface. At the top, there is a header with the ASCEND logo, the user name 'Abrahams, Tim, MD', and a 'Log out' link. Below the header is a navigation bar with buttons for 'Open study', 'View', 'Assign', 'Manage studies', 'New study', and 'Administer'. There are also buttons for 'Configure columns', 'Clear filters', and 'Refresh'. A search bar labeled 'Open studies' and a 'Manage view' dropdown are also present.

Study date	Accession number	Urgency	Type	Study status	Patient name	Birthdate	MRN	
09/15/2016 01:51:39 PM	ACN18151566		Single physician case	In progress	Roberts, Albert	03/14/1979	NUC123 (MRN)	N
06/24/2016 06:06:00 PM	RH_LH_NEW	Routine	Unknown	New	Marios, Paul	07/19/1969	6517853158 (MRN)	C
03/29/2016 01:00:00 PM	CV-0001	Routine	Unknown	New	Bruce, Octavia Casey III	11/07/1957	08627 (MRN)	C
02/15/2013 01:00:00 PM	246epd249	Routine	Single physician case	In progress	Howse, Milford Linton	03/29/1932	1366354 (MRN)	C
02/15/2013 03:45:00 AM	989898	Routine	Single physician case	In progress	Radke, Phill	06/29/1940	433627 (MRN)	N
02/13/2013 11:01:21 AM	698aod964	Routine		In progress	Lowell, Ralph Julius	01/27/1943	648379 (MRN)	E
01/24/2013 09:39:18 AM	11331320091011			In revision	Carson, Mitchell	12/25/1947	3162935 (MRN)	E
11/21/2011 02:36:04 PM	1110287968	Routine	Single physician case	In progress	Liebliches, Herz M	09/19/1953	1234567 (MRN)	C
08/17/2011 04:21:08 PM	267dps567			New	Wickham, Roland	08/17/1975	3332355 (MRN)	V
04/22/2010 03:20:48 PM	466kjd157			New	Styles, Hilary Harding	08/05/2002	1365398 (MRN)	E
12/23/2004 04:43:14 PM	CV-13-0100736	Routine		New	Tanner, Evan	10/11/1973	433627c (MRN)	V
	469eds159			In progress	Norris, Steve Avery	06/25/1949	1365396 (MRN)	E
	CMRSTUDY002			New	Franklin, Rachael	03/14/1973	CMR123 (MRN)	C

At the bottom of the table, there is a pagination bar showing '1 - 13 of 13 items' and navigation buttons.

### Refreshing The Worklist

Clicking the **Refresh** button refreshes the worklist, displaying newly-arrived orders or newly-assigned studies, for example.

## Opening a Study For Reporting

Selecting a study from the worklist and clicking the **Open study** button opens the study in the ASCEND CV reporting interface. Once you have completed reporting, clicking the appropriate **Sign** or **Close** button on the workflow toolbar returns you back to the worklist.

The screenshot displays the ASCEND CV reporting interface. The top navigation bar includes 'ASCEND Data Images Participants Study details Workflow Print' and 'To be read For attending overread Preliminary release Sign Close'. Below this is a search bar and a toolbar with 'History Study Measurements Diagrams Minor abnormalities Findings Comparisons Conclusions Findings Report'. The main content area is divided into 'Findings' and 'Summary'.

**Findings Section:**

- Left ventricle:** Normal by TTE, Cavity size Normal, Thickness Normal, Diffuse hypokinesis Mild, Systolic function worksheet (Systolic function Normal, EF (%) 55-65), Normal, no regional abnormality checked, Regional wall motion worksheet (Diastolic function Normal).
- Ventricular septum:** Normal, Thickness Normal, Dyssynergy Present, Diastolic flattening Present, Systolic flattening Present.
- Aortic valve:** Normal by TTE, Visualization Not well visualized, Leaflet number Trileaflet, Appearance Normal thickness, Velocity Normal, Stenosis Absent, Regurgitation Absent.
- Aorta:** Normal, Visualization Well visualized, Size Mildly dilated, Calcification Mild.
- Coronary arteries:** Normal by TTE.
- Mitral valve:** Normal by TTE, Visualization Not well visualized, Annulus Normal thickness, Leaflets Absent, Bowing, prolapse Absent, Velocity Absent, Stenosis Absent, Regurgitation Absent.
- Left atrium:** Normal by TTE, Visualization Not well visualized, Size Normal.
- Pulmonary veins:** Individual veins.
- Right ventricle:** Normal by TTE, Visualization Not well visualized, Size, thickness (Cavity size Normal, Systolic function Normal).
- Pulmonic valve:** Normal by TTE, Visualization Not well visualized, Leaflet appearance Normal thickness, Regurgitation Absent.
- Pulmonary artery:** MPA size Normal.

**Summary Section:**

- Summary:** 1. Left ventricle: The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities. 2. Stress ECG conclusions: Duke scoring: exercise time of 6:25 min; maximum ST deviation of 1.1 mm; Treadmill angina scale ?, resulting score is 1. This score predicts a moderate risk of cardiac events. 3. New summary item.
- Impressions:** Allergies, diet, and meds. No known allergies. Study data: Patient is 74 yr old. Patient birthdate: 01/27/1943. Study date: 05/31/2017. Study time: 12:41 PM. Race: black. Birth gender: male. Height: 177 cm. Height: 69.7 in. Weight: 68 kg. Weight: 149.6 lb. BMI: 21.7 kg/m<sup>2</sup>. BSA: 1.83 m<sup>2</sup>. Bruce protocol. Trans thoracic echocardiography. M-mode, complete 2D, and complete spectral Doppler. CP. Outpatient. Routine. Patient unit: WC 4B. Patient room number: 428. The patient tolerated the procedure well and was discharged from the lab. Financial class: Blue Cross.
- Procedure narrative:** Transthoracic echocardiography was performed. Image quality was excellent. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. Images were captured in a quad screen format that simplified data comparison. Treadmill exercise testing was performed using the Bruce protocol. The patient exercised for 6 min 15 sec, to a maximal work rate of 7.4 mets. Exercise was terminated due to fatigue.
- Adverse outcomes:** There were no complications.
- Left ventricle:** The cavity size is normal. Wall thickness is normal. Systolic function is normal. The estimated ejection fraction is 55-65%. Wall motion is normal; there are no regional wall motion abnormalities. Wall motion score: 1.00.
- Suggested interpretations:** Aortic valve: The valve is structurally normal. The valve is trileaflet. Cusp separation is normal. Transvalvular velocity is within the normal range. There is no stenosis. There is no regurgitation. Aorta: The aortic root is not dilated.

At the bottom, the patient information is: Patient: Lowell, Ralph Julius MRN: 648379 (MRN) Module: Echocardiography DOS: Status: In progress User: Abrahams, Tim, MD.

## Previewing a Report

Selecting a study from the worklist and clicking the **View** button displays the report associated with the selected study.

**ASCEND General Hospital**  
1234 Main St. Anywhere, USA 02345  
Phone: (800) 555-1234  
Fax: (800) 555-1235

**Catheterization Laboratory Study**

**Patient:** Milford Linton Howse  
**MRN:** #1366354 (MRN)  
**Accession:** #246epd249  
**Patient location:** WC 4B 428  
**Study status:**  
**Facility:** East Campus

**Study date:** 02/15/2013  
**Birth date:** 03/29/1932  
**Age:** 80 yr  
**Birth gender:** M  
**Gender identity:**

**Height:**  
**Weight:**  
**BSA:**  
**BMI:**  
**Patient status:** Inpatient

**Summary:** LAD: Mid-vessel lesion: The diagnostic study demonstrated a 90% stenosis. Stent placement was performed (see 1st lesion intervention). Following intervention, there is a residual 5% stenosis.

**History and indications:** Risk factors: Hypertension. Diabetes mellitus; on therapy with diet. Family history is significant for coronary artery disease. Allergies: No known allergies.

**Labs, prior tests, procedures, and surgery:**  
Blood tests: Serum creatinine (current admission) of 5.6 mg/dl. Hemoglobin (pre-procedure) of 12.6 g/dl.

**Study data:** Patient unit: WC 4B. Patient room number: 428. Study status: Cardiac cath: elective. Objective: CP. Consent: The risks, benefits, and alternatives to the procedure were explained to the patient and informed consent was obtained.

**Procedures performed:**

- Left coronary angiography.
- Right coronary angiography.
- Percutaneous intervention on the 90% stenosis in the mid LAD. Balloon angioplasty. Stent placement.

**Procedure:**

1. Right femoral artery access. A 6Fr sheath 24cm sheath was advanced into the vessel.
2. Selective left coronary angiography. A JL4.0 6FR LAUNCHER IVG catheter was advanced into the left coronary vessel ostium under fluoroscopic guidance. Contrast was injected. Images were obtained in multiple projections.
3. Selective right coronary angiography. A JR4.0 6FR LAUNCHER IVG catheter was advanced into the right coronary vessel ostium under fluoroscopic guidance. Contrast was injected. Images were obtained in multiple projections.
4. Sheath exchange. The right femoral artery sheath was exchanged for an 8Fr sheath 24cm sheath.
5. A stent was placed in the stenosis in the mid LAD. See detailed description below (1st lesion intervention).

**Patient:** Howse, Milford Linton **MRN:** 1366354 (MRN) **Module:** Cath implant (Single physician case) **DOS:** 02/15/2013 11:00 AM; **Status:** In progress **User:** Abrahams, Tim, MD

If there are prior Cardiology studies for the patient associated with the selected study, then a

[Show comparison studies](#)

button will be displayed in the top-left. Pressing the button displays any prior reports (left) alongside the report for the selected study (right).

**Prior studies**  
Dr. Lawrence - 01/24/2013 - Nuclear cardiology - SingleStudy - Signed

**Current study**  
SingleStudy report - Current unsigned - Saved on 05/30/2017 20:25

**ASCEND General Hospital**  
1234 Main St. Anywhere, USA 02345  
Phone: (800) 555-1234  
Fax: (800) 555-1235

**Myocardial Perfusion Imaging**  
Bruce protocol  
Gated SPECT and planar imaging

**Patient:** Phill Radke  
**MR number:** 433627  
**Age:** 63 yr  
**Birth date:** 06/29/1940  
**Study date:** 03/09/2004

**Ordering physician:** Michael Edwards, MD  
**Height:**  
**Weight:**

**Summary:** Stress ECG conclusions: Duke scoring: exercise time of 6.25 min; maximum ST deviation of 1.1 mm; no angina, resulting score is 1. This score predicts a moderate risk of cardiac events.

**Impressions:** Abnormal study after maximal exercise without reproduction of symptoms. Cannot exclude myocardial infarction, in the territory of the left circumflex coronary artery.

**Recommendations:**

1. If patient symptoms persist.
2. Cardiac catheterization should be performed.

**History:** Moderate exertional chest pain. Risk factors: Current tobacco use. Hypertension. Diabetes mellitus. Dyslipidemia.

**Study data:** Study status: Elective. Consent: The risks, benefits, and alternatives to the procedure were explained to the patient and informed consent was obtained. Procedure: Initial setup. The patient was brought to the laboratory. A baseline ECG was recorded. Intravenous access was obtained. Surface ECG leads and manual cuff blood pressure measurements were monitored. Treadmill exercise testing was performed using the Bruce protocol. The patient exercised for 6 min 15 sec, to a maximal work rate of 7.4 mets. Exercise was terminated due to fatigue. Study completion: All catheters inserted during the procedure were removed. The patient tolerated the procedure well and was discharged from the lab.

**Stress protocol:**

**Patient:** Radke, Phill **MRN:** 433627 (MRN) **Module:** Nuclear cardiology (Single physician case) **DOS:** 02/15/2013 01:45 AM; **Status:** In progress **User:** Abrahams, Tim, MD

**ASCEND General Hospital**  
1234 Main St. Anywhere, USA 02345  
Phone: (800) 555-1234  
Fax: (800) 555-1235

**Myocardial Perfusion Imaging**  
Bruce protocol  
Gated SPECT and planar imaging

**Patient:** Phill Radke  
**MRN:** #433627 (MRN)  
**Accession:** #989898  
**Patient location:** WC 4B 428  
**Study status:** Routine  
**Facility:** East Campus

**Study date:** 02/15/2013  
**Birth date:** 06/29/1940  
**Age:** 72 yr  
**Birth gender:** M  
**Gender identity:**

**Height:**  
**Weight:**  
**BSA:**  
**BMI:**  
**Patient status:** Inpatient

**Summary:** Stress ECG conclusions: Duke scoring: exercise time of 7.92 min; maximum ST deviation of 6.8 mm; .

**History and indications:** Allergies: No known allergies.

**Study data:** Patient unit: WC 4B. Patient room number: 428. Study status: Routine. Objective: CP. Consent: The risks, benefits, and alternatives to the procedure were explained to the patient and informed consent was obtained. Procedure: Initial setup. The patient was brought to the laboratory. A baseline ECG was recorded. Intravenous access was obtained. Surface ECG leads and manual cuff blood pressure measurements were monitored. Treadmill exercise testing was performed using the Bruce protocol. The patient exercised for 7 min 55 sec, to a maximal work rate of 9.1 mets. Exercise was terminated due to fatigue and due to dizziness. Study completion: The patient tolerated the procedure well.

**Isotope administration:**

Stage	Rest	Stress
<u>Agent</u>	Tc-99m sestamibi	Tc-99m sestamibi
<u>Injected dose</u>	6 mCi	24 mCi
<u>Injection to image</u>	00:15	00:15

Clicking Close in the Prior Studies section will return to displaying just the current study.

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**Myocardial Perfusion Imaging**  
Bruce protocol  
Gated SPECT and planar imaging

**Patient:** Phil Radke  
**MRN:** #433627 (MRN)  
**Accession:** #989898  
**Patient location:** WC 4B 428  
**Study status:** Routine  
**Facility:** East Campus

**Study date:** 02/15/2013  
**Birth date:** 06/29/1940  
**Age:** 72 yr  
**Birth gender:** M  
**Gender identity:**

**Height:**  
**Weight:**  
**BSA:**  
**BMI:**  
**Patient status:** Inpatient

**Summary:** Stress ECG conclusions: Duke scoring: exercise time of 7.92 min, maximum ST deviation of 6.6 mm, .

**History and indications:** Allergies: No known allergies.

**Study data:** Patient unit: WC 4B. Patient room number: 428. Study status: Routine. Objective: CP. Consent: The risks, benefits, and alternatives to the procedure were explained to the patient and informed consent was obtained. Procedure: Initial setup. The patient was brought to the laboratory. A baseline ECG was recorded. Intravenous access was obtained. Surface ECG leads and manual cuff blood pressure measurements were monitored. Treadmill exercise testing was performed using the Bruce protocol. The patient exercised for 7 min 55 sec, to a maximal work rate of 9.1 mets. Exercise was terminated due to fatigue and due to dizziness. Study completion: The patient tolerated the procedure well.

**Isotope administration:**

Stage	Rest	Stress
Agent	Tc-99m sestamibi	Tc-99m sestamibi
Injected dose	6 mCi	24 mCi
Injection to image	00:15	00:15
Post 1st injection	--	03:00

**Image properties:** Gated imaging was performed.

Patient: Radke, Phil MRN: 433627 (MRN) Module: Nuclear cardiology (Single physician case) DOS: 02/15/2013 01:45 AM, Status: In progress User: Abrahams, Tim, MD

If you wish to edit the selected study, clicking the **Edit** button will open the study in the ASCEND CV reporting interface. Note that if the study is currently opened for reporting by another user, and if your ASCEND CV lab administrator has configured the application to allow force close other studies, after clicking **Edit**, you will be prompted to terminate the session of the other user, along with an indication of how long that user's session has been idle.

## Assigning a Study

Selecting a study from the worklist and clicking the **Assign** button displays the participants for the study and allows you to assign participants to roles. See the *Participants Button* section of this Guide for details.

**Participants**

Show only: East Campus  Echocardiography  Role

Role	Participant
Responsible physician	Lawrence, Christopher Mark
Preliminary signer	[none]
Sonographer	Brooks, Jerome X, V TEC
Referring physician	[none]
Ordering physician	[none]
Practice	[none]

Ok Cancel

## Managing Worklist Views

You can configure the worklist to meet your needs:

- The worklist can be **sorted by column entry**. Clicking on a column heading such as **Study status** toggles between:
  - Unsorted **Study status** with no arrow
  - an increasing sort **Study status ▲** with an up arrow
  - a decreasing sort **Study status ▼** with a down arrow

Clicking on multiple columns combines the sorts across all columns, grouped in the order the columns were clicked. For example, clicking on Study Status, followed by clicking on Patient name creates a nested or grouped sort ordered by patient name within increasing status progression, as seen below:

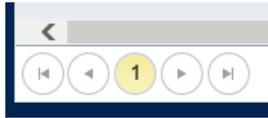
ASCEND  
Abrahams, Tim, MD Log out  
Open studies Manage view

Open study View Assign Manage studies New study Administer Configure columns Clear filters Refresh

Study date	Accession number	Urgency	Type	Study status ▲	Patient name ▲
03/29/2016 01:00:00 PM	CV-0001	Routine	Unknown	New	Bruce, Octavia Casey III
	CMRSTUDY002			New	Franklin, Rachael
06/24/2016 06:06:00 PM	RH_LH_NEW	Routine	Unknown	New	Marios, Paul
04/22/2010 03:20:48 PM	466kj157			New	Styles, Hilary Harding
12/23/2004 04:43:14 PM	CV-13-0100736	Routine		New	Tanner, Evan
08/17/2011 04:21:08 PM	267dps567			New	Wickham, Roland
02/15/2013 01:00:00 PM	246epd249	Routine	Single physician case	In progress	Howse, Milford Linton
11/21/2011 02:36:04 PM	1110287968	Routine	Single physician case	In progress	Liebliches, Herz M
02/13/2013 11:01:21 AM	698aod964	Routine		In progress	Lowell, Ralph Julius
	469eds159			In progress	Norris, Steve Avery
02/15/2013 03:45:00 AM	989898	Routine	Single physician case	In progress	Radke, Phill
09/15/2016 01:51:39 PM	ACN18151566		Single physician case	In progress	Roberts, Albert
07/23/2015 11:38:24 PM	12453			Signed	Carson, Mitchell
	CMRSTUDY001			Signed	Franklin, Rachael
01/24/2013 09:39:18 AM	55443		Single physician case	Signed	Liebliches, Herz M

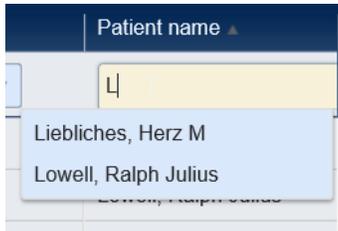
1 - 21 of 21 items

- The worklist, when longer than a single screen or page, can be traversed using the worklist paging control at the bottom left.



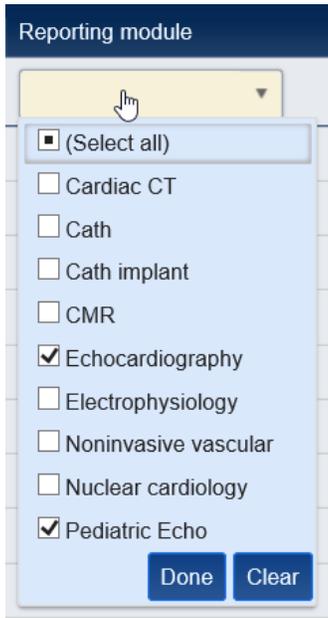
These buttons will display hover text to remind you of their function. From left to right they are:

- Go to the first page
  - Go to the previous page
  - [current page number – not a button]
  - Go to the next page
  - Go to the last page
- The worklist can be **filtered by column entry**. Entering text in a column’s filter box (below the column heading) displays only those studies that contain the specified text in the specified column (the studies that contain “L” in the *Patient name* column, in the example below).

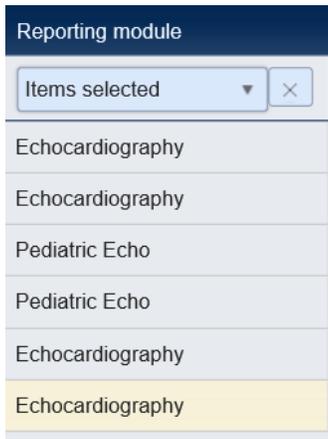


You can either click the mouse outside the dropdown to clear the matching list and display all patient names beginning with “L”, or sub-select one of the matches to display only the studies associated with that one patient.

Columns with predefined options can be filtered by selecting one or more choices from the associated filter list. Note that after selecting choices, you may need to click somewhere else on the worklist to close the filter list.



In either case, the filtered column will display **Items selected** to indicate that it is being filtered.

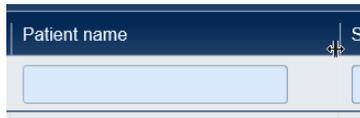


Clicking the  will clear the individual filter. Clicking the **Clear filters** button will clear all filters set across all columns.

- The worklist **columns can be reordered**. To reposition a column in the worklist, drag its column heading (*Study status* in the example below) to a new location and drop it.



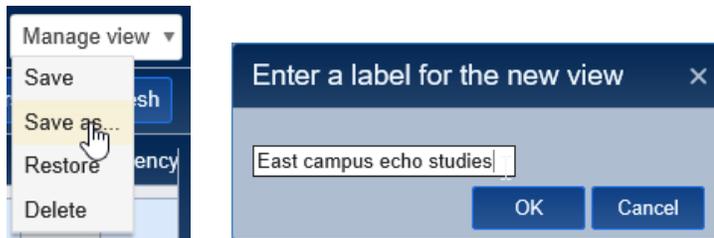
- The worklist **column widths can be adjusted**. To narrow/widen a column, grab its column divider (the dotted line in the example below) and drag it left/right.



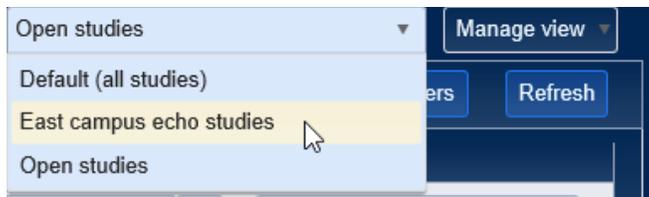
Once you have a worklist configuration that you like, you can save it as a named **worklist view** for future use. The example below shows a worklist whose columns have been reordered and contain open (unsigned) Echocardiography studies performed at the East Campus, sorted by study date/time.

Facility	Reporting module	Study status	Study date	Patient name	Type
East Campus	Echocardiography	Items selected			
East Campus	Echocardiography	New	07/23/2015 11:38:24 PM	Carson, Mitchell	
East Campus	Echocardiography	New	02/13/2013 11:01:21 AM	Lowell, Ralph Julius	

This view can be saved as an “East campus echo studies” worklist view by clicking the **Manage view** button, selecting **Save as**, and specifying the name of the new view.



The “East campus echo studies” view is then available in the **worklist view** selector.



## Administering a Study

(Requires Lab Administrator privileges)

Selecting a study from the worklist and clicking the **Administer** button displays a form containing information about the study (*Order*, *Case*, and *Study* blocks) and the associated patient (*Patient* and *Admission* blocks). Note that the **Administer** button will only be displayed on the worklist if you have *Lab Administrator* privileges.

### Editing Study Data

The study fields with **black** text are editable. The fields with *gray* text are presented for review only. Click the **Save** button to save the edited study data.

#### Administer - Case editor

<b>Admission</b> Account number: 10041889 Arrival date/time: 02/13/2013 12:21 PM Admission: Observation	<b>Patient</b> Carson, Mitchell MRN: 3162935 (MRN) DOB: 12/25/1947 Edit patient Change patient Create patient
<b>Order</b> Accession number: 12453 Study instance ID: 1.2.888.777777.6666.1.99999999.4.2 Placer order number: 36099144 Ordered date/time: 02/13/2013 09:40 AM Universal service ID: CardiacEchoca20 [TEE] Order description: Cardiac Echocardiogram Transesoph Urgency: External ID: Order status: Order canceled reason: Facility: East Campus	<b>Case</b> Lab discharge date/time: Location performed: Procedure room: Encounter MRN: 3162935
<b>Study</b> Start date/time: 07/23/2015 09:38 PM Stop date/time:	

Cancel order   Reset study   Download study xml   Save   Cancel

## Editing Patient Data

Clicking the **Edit patient** button displays a form for editing data about the patient associated with the study.

**Administer - Case editor: Patient demographics**

**Carson, Mitchell**

This patient record is shared by all of the studies associated with this patient.  
 This form should only be used to update patient information.  
 To change the patient associated with this study, use the **Change patient** function.

ID	713	SSN	184-38-9676
Salutation	<input type="text"/>	MPI	<input type="text"/>
First name	Mitchell	Universal record #	<input type="text"/>
Middle name	<input type="text"/>	<input type="checkbox"/> Foreign health insurance <input type="checkbox"/> Indian health service <input type="checkbox"/> Medicaid <input type="checkbox"/> Medicare <input type="checkbox"/> Military health care <input type="checkbox"/> No health insurance <input type="checkbox"/> Private health insurance <input type="checkbox"/> State specific health care plan	
Last name	Carson		
Family suffix	<input type="text"/>		
Professional suffix	<input type="text"/>		
Address 1	603 THUNDER DR		
Address 2	<input type="text"/>		
City	PRESCOTT		
State / province	AZ <input type="text"/>		
Zip / postal code	863035088		
Country	<input type="text"/>		
Email	<input type="text"/>		
Business #	<input type="text"/>		
Home #	(603)400-500		
Fax #	<input type="text"/>		
Birth date	12/25/1947		
Birth gender	Male <input type="text"/>		
Ethnicity	Unknown <input type="text"/>		
Race	White <input type="text"/>		
Marital status	Married <input type="text"/>		
Primary language	English <input type="text"/>		

Assigning authority	Type	ID
MRN <input type="text"/>	MRN <input type="text"/>	3162935 <input type="text"/>

Note that this patient data record is shared by all the ASCEND CV studies for the patient. This form should only be used to update information on the selected patient, not to change the patient associated with the study.

Clicking the **Change patient** button displays a form for selecting a different patient for the study. Adjust the name or portion of the name you are searching for in the Search text box to constrain the list of patients.

**Administer - Case editor: Patient selector**

Search:

Name	MRN	DOB
Bruce, Octavia Casey III	08627	11/07/1957
Carson, Mitchell	3162935	12/25/1947
Franklin, Rachael	CMR123	03/14/1973
Howse, Milford Linton	1366354	03/29/1932
Liebliches, Herz M	1234567	09/19/1953
Lowell, Ralph Julius	648379	01/27/1943
Marios, Paul	6517853158	07/19/1969
Norris, Steve Avery	1365396	06/25/1949
Radke, Phill	433627	06/29/1940
Roberts, Albert	NUC123	03/14/1979
Styles, Hilary Harding	1365398	08/05/2002
Tanner, Evan	433627c	10/11/1973
Wickham, Roland	3332355	08/17/1975

Clicking either the **Create patient** button on the Case Editor form, or the **New** button on the Patient Selector form will display a new form for entering a new patient for the study.

**Administer - Case editor: Patient demographics**

Salutation

! First name

Middle name

! Last name

Family suffix

Professional suffix

Address 1

Address 2

City

State / province

Zip / postal code

Country

Email

Business #

Home #

Fax #

! Birth date

Birth gender

Ethnicity

Race

Marital status

Primary language

! SSN

! MPI

! Universal record #

Foreign health insurance

Indian health service

Medicaid

Medicare

Military health care

No health insurance

Private health insurance

State specific health care plan

Death indicator

Death date/time

! A minimum of one identifier is required.

Assigning authority	Type	ID
No data available in table		

! Required field is empty or invalid

The fields marked with a red exclamation point (!) are required and must be specified. Note that you must specify at least one patient identifier – master patient index number (MPI), universal record number, or medical record number (MRN) – using either a named field or the patient identifier panel.

Assigning authority	Type	ID
MRN	MRN	3162935
New		

### Canceling a Study

Clicking the **Cancel order** button cancels the study. You might use this option if an ordered study will not be performed for some reason. Note that only unsigned studies can be canceled. If no data has been recorded for the study (beyond the data imported with the order), then the study is removed from the ASCEND CV database. Otherwise, the study is marked as *'canceled'* but the associated data is retained in the ASCEND CV database.

### Resetting a Study

Clicking the **Reset study** button returns a study back to its initial state immediately after processing of the associated order. Note that resetting a study deletes all data imported from clinical devices and all recorded findings. Only unsigned studies can be reset.

**Reset study**

**Edit and resubmit order**

The case will be completely deleted, including the associated order and all recorded findings, imported device data, and imported secondary capture images. All studies associated with the case will be deleted. Following reset, you can edit the original order to correct errors and the revised order will be resubmitted. Device data will not be reimported automatically, but can be reimported manually. Secondary capture images will not be reimported automatically and must be recaptured.

Use case: The order has an incorrect patient or study identifier (e.g., MRN, Accession#, USID)

**Reset study**

All recorded findings, imported device data, and imported secondary capture images will be deleted, but the original order will be retained. Device data will not be reimported automatically, but can be reimported manually. Secondary capture images will not be reimported automatically and must be recaptured.

Use case: Incorrect device data was imported

Cancel

Clicking the **Reset study** button resets the study by (re)processing the original order. You might use this option to reset a study if incorrect device data was imported or a large number of incorrect findings recorded.

Clicking the **Edit and resubmit order** button displays the **Administer** form (shown above) allowing editing of order data before the order is (re)processed. Note that, in this case, all the study fields on the **Administer** form will be editable. You might use this option to reset a study if the original order contained an incorrect study identifier (Accession #, facility, or Universal Service ID).



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