

AURORA INTERACTIVE

mScope®

# Communicate

mScope Clinical Application

v3.4 Training Manual

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# Contents of this Training Manual

1. Introducing mScope pp. 2-12
2. The mScope Portal pp. 13-50

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# 1. Introducing mScope

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- A. Q & A**
- B. Overview**
- C. Media**
- D. The Portal**
- E. The Viewer**
- F. Summary**

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# 1. A. Introducing mScope – Q & A

**Q:** What is mScope?

**A:** mScope is Aurora Interactive Ltd.'s universal Web viewer for disseminating and collaborating around medical images anywhere and at any time.

**Q:** What is the mScope Clinical Suite?

**A:** The mScope Clinical Suite is an additional suite of tools to enable hospitals and other professional organizations to easily and intuitively view, manage, distribute, enrich, share and collaborate around digital medical content using the mScope Viewer and the mScope Clinical Portal.

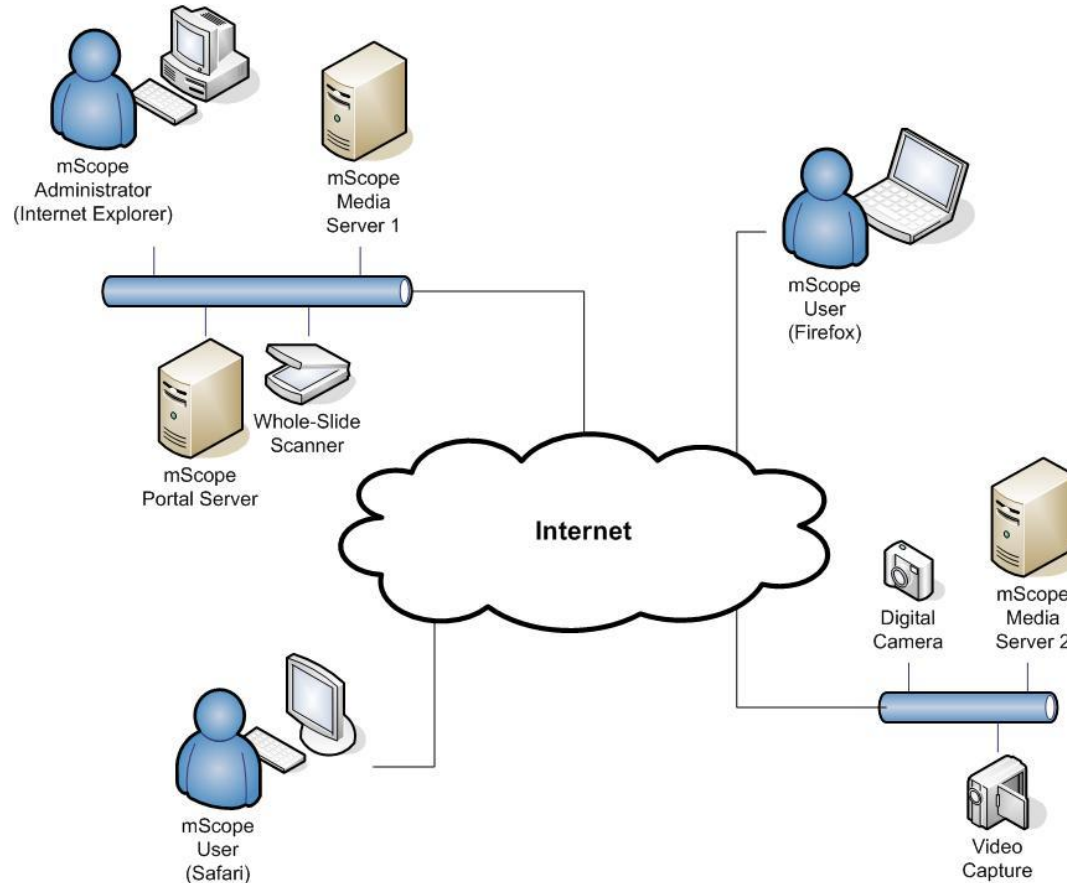
# 1. B. Introducing mScope – Overview

The mScope Education Suite is a Web-based thin-client application that:

- Manages all forms of media and information required to support medical education
- Uses a centralized mScope Portal server to organize, enrich and share medical media and information
- Uses the mScope Viewer to allow users to view, enrich and collaborate around media without displacing or copying it
- Operates on multiple operating systems (e.g. Windows, Mac)
- May be accessed by multiple browser types (e.g. Internet Explorer, Safari, Mozilla Firefox, etc.)
- Supports many image formats (native whole-slide scanner formats, DICOM, digital video, digital cameras, etc.)

# 1. B. Introducing mScope - Overview

The following diagram illustrates a typical mScope implementation:

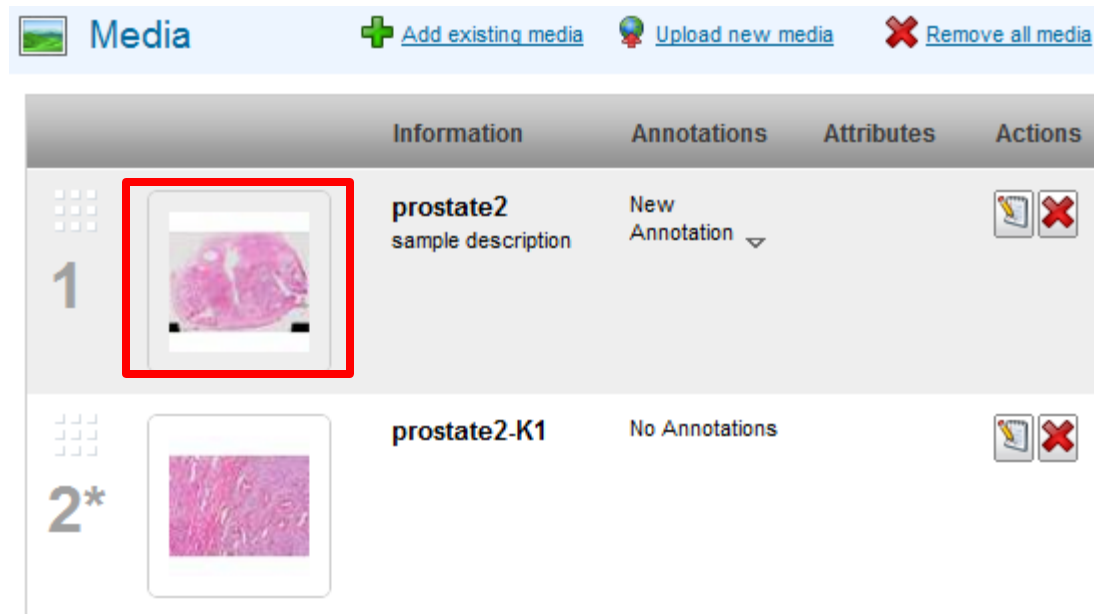


# 1. C. Introducing mScope – Media

Media is defined as any file containing visual information. mScope supports hundreds of media formats. Examples include:

- 2D images (e.g. .jpg, .gif, etc.)
- Video (e.g. .mpeg)
- Whole-slide images produced by slide scanners (e.g. Aperio, Hamamatsu, Zeiss, Olympus, etc.)

Media is displayed in the mScope Portal using thumbnails:



The screenshot displays the mScope Media management interface. At the top, there is a header bar with the title "Media" and three action buttons: "Add existing media", "Upload new media", and "Remove all media". Below the header, there is a table with columns for "Information", "Annotations", "Attributes", and "Actions". The table contains two rows of media items. The first row, labeled "1", shows a thumbnail of a prostate tissue slide, which is highlighted with a red box. The second row, labeled "2\*", shows a smaller thumbnail of a prostate tissue slide. The "Annotations" column for the first item shows "New Annotation" with a dropdown arrow, and for the second item, it shows "No Annotations". The "Actions" column for both items contains icons for adding annotations and removing the item.

# 1. D. Introducing mScope – The Portal

mScope is a web application capable of running on a PC or Mac. The mScope Portal may be accessed through any Web browser (e.g. Internet Explorer, Mozilla Firefox, Safari, etc.) and is the primary work area for users and administrators of the mScope Clinical Suite.

**mScope<sup>®</sup> Clinical** **AURORA MSC**

Welcome [John Doe](#) [Administration](#) [Log Out](#) [Help](#)

Studies Opinions Panel Discussions Knowledge Base Modalities Search Results

All cases (2)

Cases by state

- Quality control (2)
- Diagnosis pending (0)
- Diagnosis in progress (0)
- Diagnosis completed (0)

Cases by pathologist

- Assigned to me (1)
- Group of Pathologist (2)

Archived Cases (0)

**All Cases** [+ New case](#)

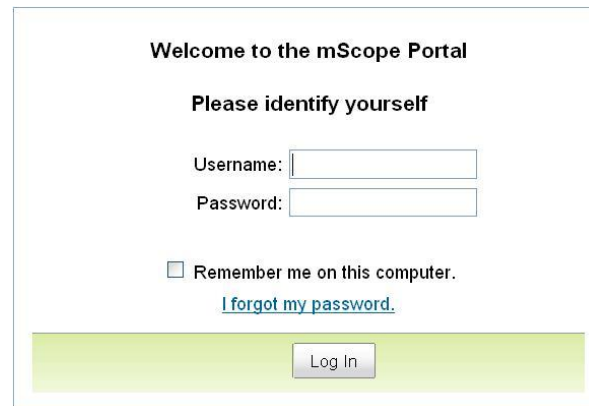
Display 1 to 2 of 2

↑:Priority	Date Created	State	Case ID	Pathologist group	Pathologist user	Attributes	Media	Actions
Priority 1	26/02/2010	Quality control	<a href="#">Case 3</a>	Group of Pathologist	Unassigned	No Attribute		
Priority 3	20/01/2010	Quality control	<a href="#">Case 1</a>	Group of Pathologist	John Doe	No Attribute		



# 1. D. Introducing mScope – The Portal

Users must login to gain access to the application. mScope contains its own authentication supporting usernames and passwords but can be linked to an existing security system to avoid duplicates and multiple login requests.



The screenshot shows a login form titled "Welcome to the mScope Portal". Below the title is the instruction "Please identify yourself". There are two input fields: "Username:" and "Password:". Below the password field is a checkbox labeled "Remember me on this computer." and a blue hyperlink that says "I forgot my password.". At the bottom of the form is a "Log In" button.

# 1. D. Introducing mScope – The Portal

The Portal may be configured to include all or some of the following modules (tabs):

- Studies
- Opinions
- Panel Discussion
- Knowledge Base
- Modalities
- Search

A more detailed description of the mScope Portal, its modules and their features will be provided in Section 2 of this manual.

The screenshot displays the mScope Clinical portal interface. At the top, the logo 'mScope® Clinical' is on the left, and 'AURORA MSC' is on the right with a user welcome message 'Welcome John Doe' and links for 'Administration', 'Log Out', and 'Help'. Below the logo is a navigation bar with tabs: 'Studies', 'Opinions', 'Panel Discussions', 'Knowledge Base', 'Modalities', and 'Search Results'. A search bar is located on the right side of the navigation bar.

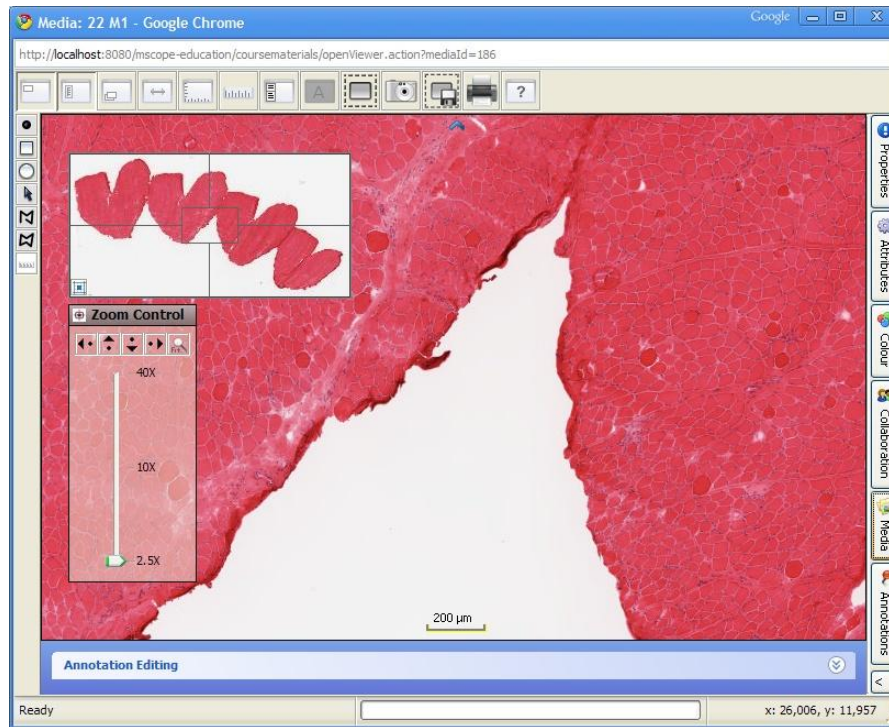
The main content area is titled 'All Cases' and includes a '+ New case' button. A table lists the cases with columns for Priority, Date Created, State, Case ID, Pathologist group, Pathologist user, Attributes, Media, and Actions. The table shows two cases:

Priority	Date Created	State	Case ID	Pathologist group	Pathologist user	Attributes	Media	Actions
Priority 1	26/02/2010	Quality control	<a href="#">Case 3</a>	Group of Pathologist	Unassigned	No Attribute		
Priority 3	20/01/2010	Quality control	<a href="#">Case 1</a>	Group of Pathologist	John Doe	No Attribute		

On the left side, there is a sidebar menu with expandable sections: 'All cases (2)', 'Cases by state' (with sub-items: Quality control (2), Diagnosis pending (0), Diagnosis in progress (0), Diagnosis completed (0)), 'Cases by pathologist' (with sub-items: Assigned to me (1), Group of Pathologist (2)), and 'Archived Cases (0)'. The table also includes a 'Display 1 to 2 of 2' indicator.

# 1. E. Introducing mScope – The Viewer

The mScope Viewer is analogous to a virtual microscope. It is launched when a user clicks on a Media thumbnail in the Portal. In order to eliminate the requirement to download an entire media file (which in some cases is several GBs in size), it selectively and intelligently loads the data corresponding to the region within the viewing area and includes tools to allow users to navigate the Media.



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# 1. E. Introducing mScope – The Viewer

The viewer may also be configured to include all or some of the following modules (tabs):

- Properties
- Attributes
- Color
- Thumbnails
- Collaboration
- Annotations

A more detailed description of the mScope Viewer, its modules and their features will be provided in Section 3 of this manual.

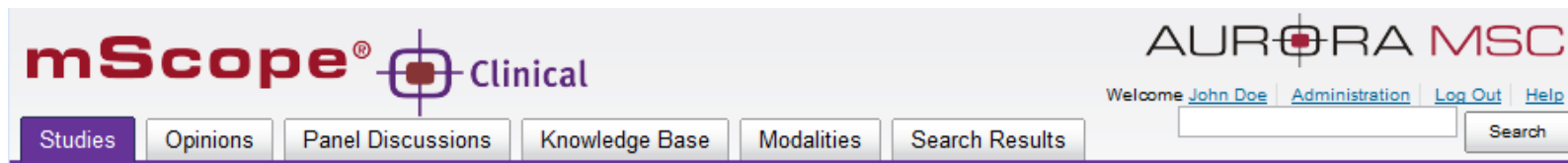
## 2. The mScope Portal

- A. Header***
- B. Modules***
- C. Studies Home***
- D. Viewer***
- E. Viewer Media***
- F. Viewer Collaboration***
- G. Viewer Tools***
- H. Viewer Annotations***
- I. Casses***
- J. Workflow***
- K. Operations***
- L. Opinions***
- M. Panel Discussion***
- N. Knowledge Base***
- O. Modalities***
- P. Search***

## 2. A. The mScope Portal - Header

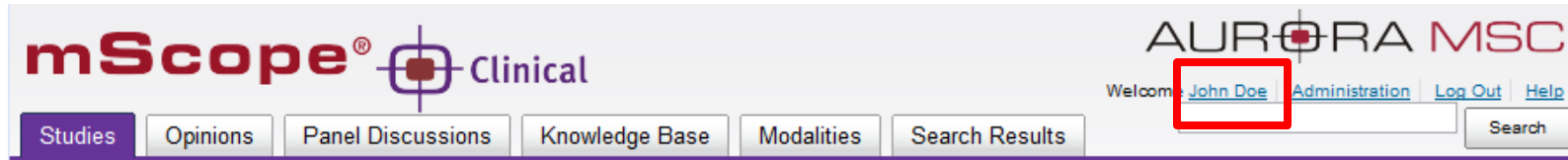
The mScope Portal Header is accessible from all pages of the Portal and includes the following elements:

- User Profile
- Administration
- Log Out
- Help
- Search
- Module Navigation menu (tabs): Studies, Opinions, Panel Discussion, Knowledge Base, and Search.

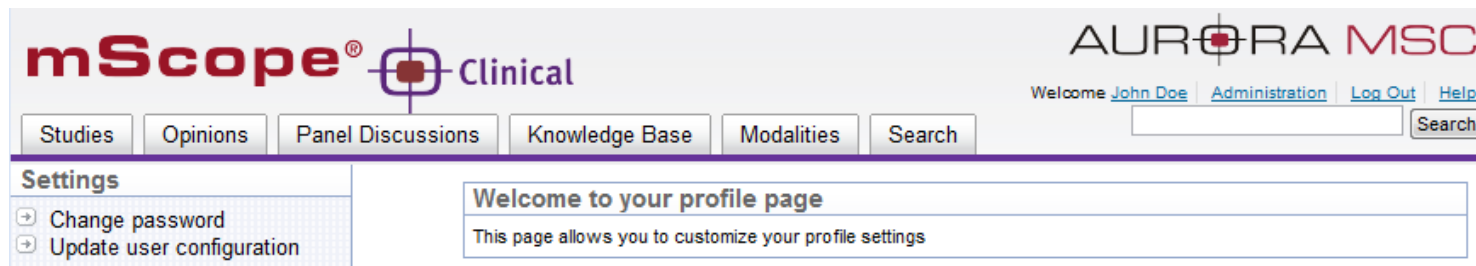


## 2. A. The mScope Portal - Header

**User Profile:** By clicking the username after "Welcome" in the top right of the Header...



... the user is redirected to the Profile page where they may change their password or increase the available memory for the viewer improving its performance.



## 2. A. The mScope Portal - Header

If you are using mScope's user identification selecting modify password on the previous page will bring you to the password page where you can enter a new password.

**Change password : Path1**

\* Old password:

\* New password:

\* Confirm new password:

Selecting Update user configuration brings you to the memory management page. Increasing the memory improves the performance of the viewer.

**Update user configuration**

Viewer memory (MB):  ▼

This setting sets the amount of virtual memory dedicated to your image viewer. The higher the setting, the more image tiles you can keep in memory and the faster your experience when navigating images.

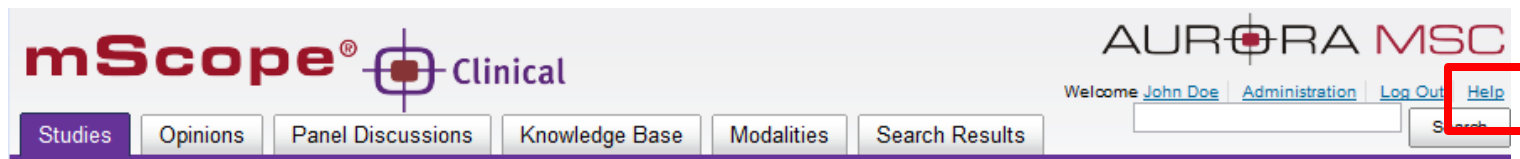
Current default memory setting (MB): 128



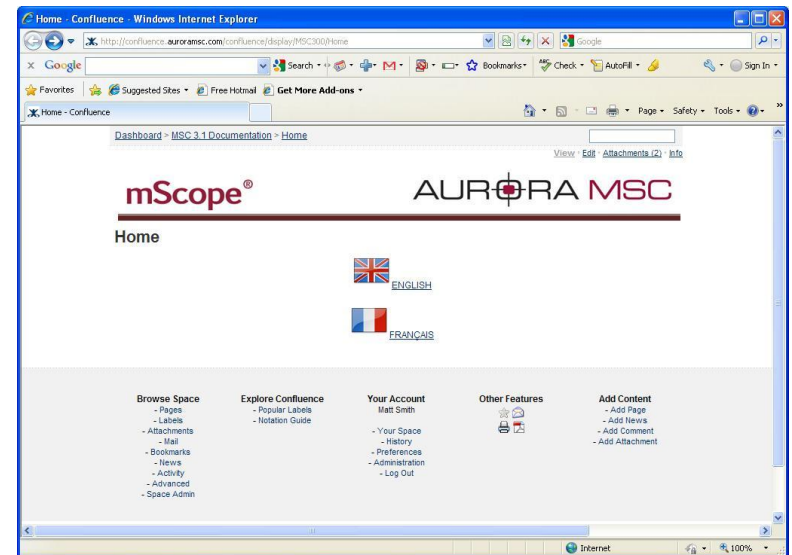
## 2. A. The mScope Portal - Header

**Log Out:** Clicking "Log Out" in the top right of the Header logs the User out and redirects them to the Home page.

**Help:** Clicking the help link...



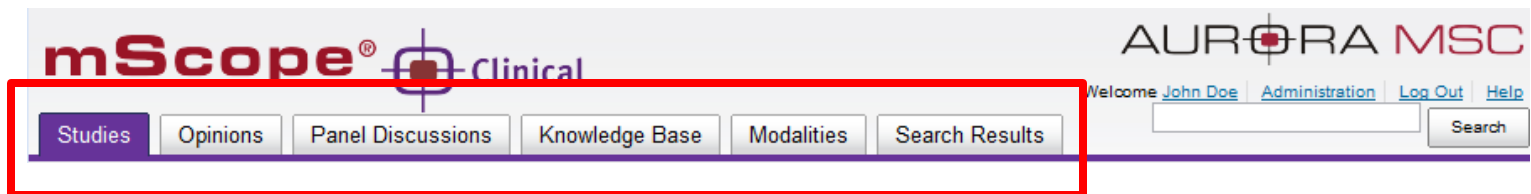
... redirects the User to Aurora MSC's mScope Help website, where documentation and technical support can be obtained.



## 2. B. The mScope Portal – Modules

The Portal may be configured to include all or some of the following modules (tabs):

- Studies – lists all active cases
- Opinions – lists all cases that have been referred to a specialist
- Panel Discussion – handles group based case discussion
- Knowledge Base – de-identified list of reference cases
- Modalities – lists all connected hardware such as cameras (video, grossing station) and slide scanners
- Search – displays search results



## 2. C. The mScope Portal – Studies Home

The Studies page can be reached by selecting the “Studies“ Navigation menu tab. It is divided into two sections; the “case organizer” (left) and “case list” (right). Both the organizer and list will display information based on the cases you have permission to see.

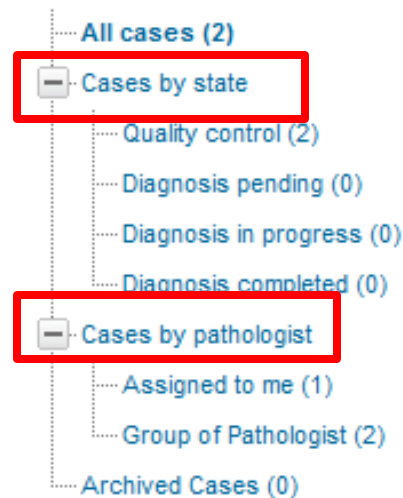
The screenshot displays the mScope Clinical portal interface. The top navigation bar includes the mScope logo, the text 'Clinical', and the AURORA MSC logo. Below the navigation bar are tabs for 'Studies', 'Opinions', 'Panel Discussions', 'Knowledge Base', 'Modalities', and 'Search Results'. The 'Studies' tab is selected. The main content area is divided into two sections, both highlighted with red boxes:

- Case Organizer (Left):** A tree view showing 'All cases (2)' with sub-categories: 'Cases by state' (Quality control (2), Diagnosis pending (0), Diagnosis in progress (0), Diagnosis completed (0)) and 'Cases by pathologist' (Assigned to me (1), Group of Pathologist (2), Archived Cases (0)).
- All Cases List (Right):** A table titled 'All Cases' with a '+ New case' button. The table has columns for Priority, Date Created, State, Case ID, Pathologist group, Pathologist user, Attributes, Media, and Actions. Two cases are listed:

Priority	Date Created	State	Case ID	Pathologist group	Pathologist user	Attributes	Media	Actions
Priority 1	26/02/2010	Quality control	<a href="#">Case 3</a>	Group of Pathologist	Unassigned	No Attribute		
Priority 3	20/01/2010	Quality control	<a href="#">Case 1</a>	Group of Pathologist	John Doe	No Attribute		

## 2. C. The mScope Portal – Studies Home

The case organizer filters the active cases by workflow state and ownership. Case development is handled in the first phase of the workflow “Quality Control”. Those responsible for preparing cases work almost exclusively in this section. When a case has been assigned to a pathologist or pathologist group it moves to the next state “Diagnosis pending” at which it becomes the responsibility of the pathologist.



## 2. C. The mScope Portal – Studies Home

The case list displays available cases based on the section selected in the case organizer. For example, selecting “Quality Control” will display cases which are in development or have yet to be assigned.

The case list displays a quick overview of each case including the priority, creation date, assignment, etc and may be sorted by selecting the title (if it is underlined).

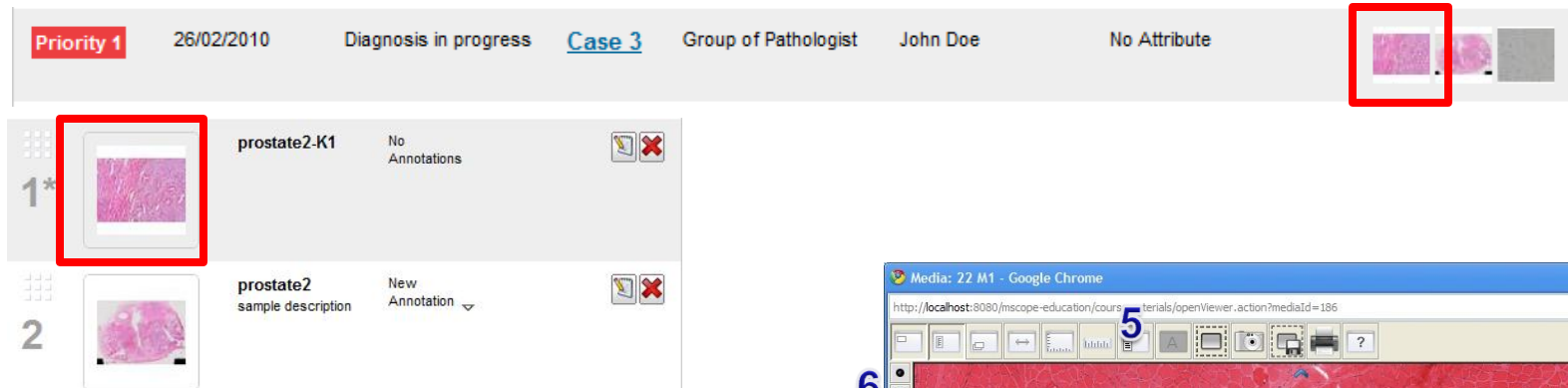
Selecting the case name opens the case for viewing and editing.

Clicking on the media will cause it to open in the viewer.

<a href="#">↑ Priority</a>	<a href="#">Date Created</a>	<a href="#">State</a>	<a href="#">Case ID</a>	<a href="#">Pathologist group</a>	<a href="#">Pathologist user</a>	<a href="#">Attributes</a>	<a href="#">Media</a>	<a href="#">Actions</a>
Priority 1	26/02/2010	Quality control	<a href="#">Case 3</a>	Group of Pathologist	Unassigned	No Attribute		  
Priority 3	20/01/2010	Quality control	<a href="#">Case 1</a>	Group of Pathologist	John Doe	No Attribute	  	

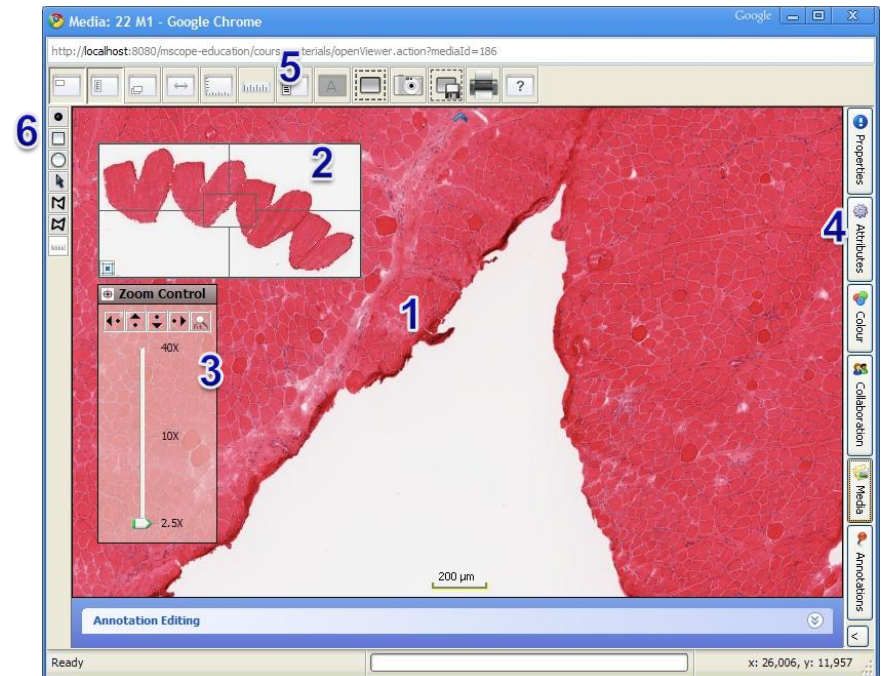
## 2. D. The mScope Portal – Viewer

Selecting a thumbnail from the case list or media section of a case opens the image in the viewer



The viewer is organized in five sections:

1. Main Image
2. Navigation Control
3. Magnification Control
4. Tabs
5. Tools
6. Annotations Tools

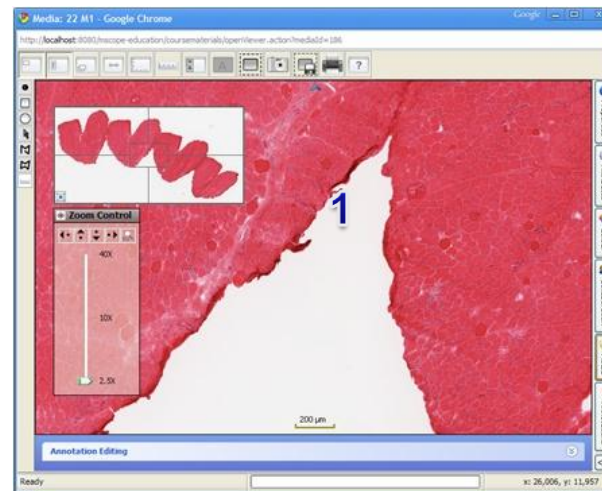


## 2. D. The mScope Portal – Viewer

The **Main Image (1)** displays the slide at the desired magnification allowing you to navigate it. There are two ways to navigate the image directly.

- Press and hold the left mouse button and drag in the direction you want to go.
- Move to the edge of the image and click the "Arrow" button that will appear to scan across the image shifting the view.

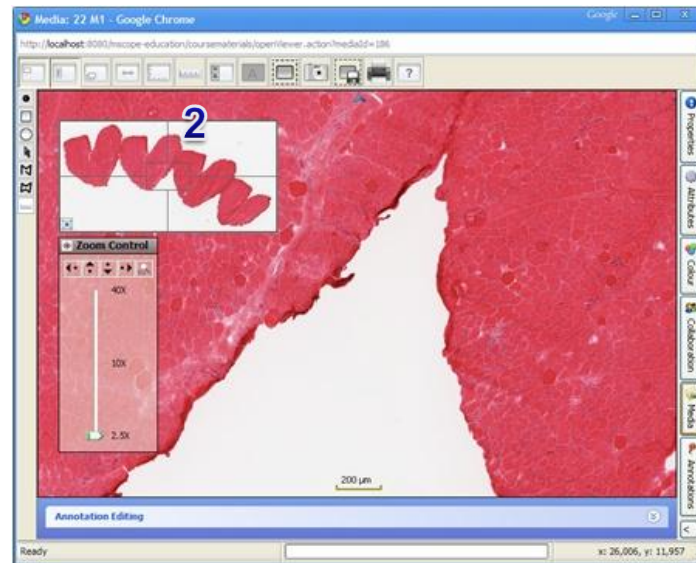
You can also change the magnification using the scroll wheel. Rolling up increases the magnification and down decreases it.



## 2. D. The mScope Portal – Viewer

The **Navigation Control (2)** displays the whole image identifying the area currently being viewed in the main window. Its position can be changed by dragging it with the left mouse button.

Left clicking inside the view will center the main window around the selected location.



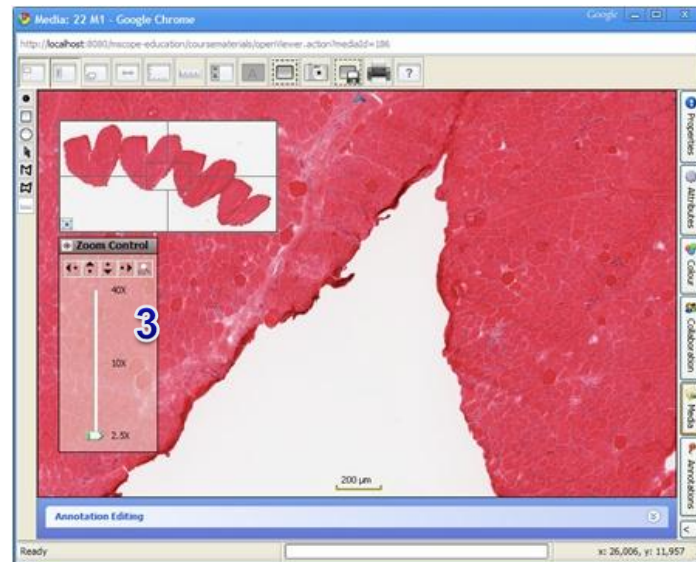


## 2. D. The mScope Portal – Viewer

The **Magnification Control (3)** displays the available display levels.

Magnification may be controlled by the slider bar. You can also force the image to fit the screen by selecting the "Fit" button located on the top right.

Scanning the image may be done using the buttons located on the top left.



## 2. D. The mScope Portal – Viewer

**Properties:** Basic details about the magnification and dimensions of the image.

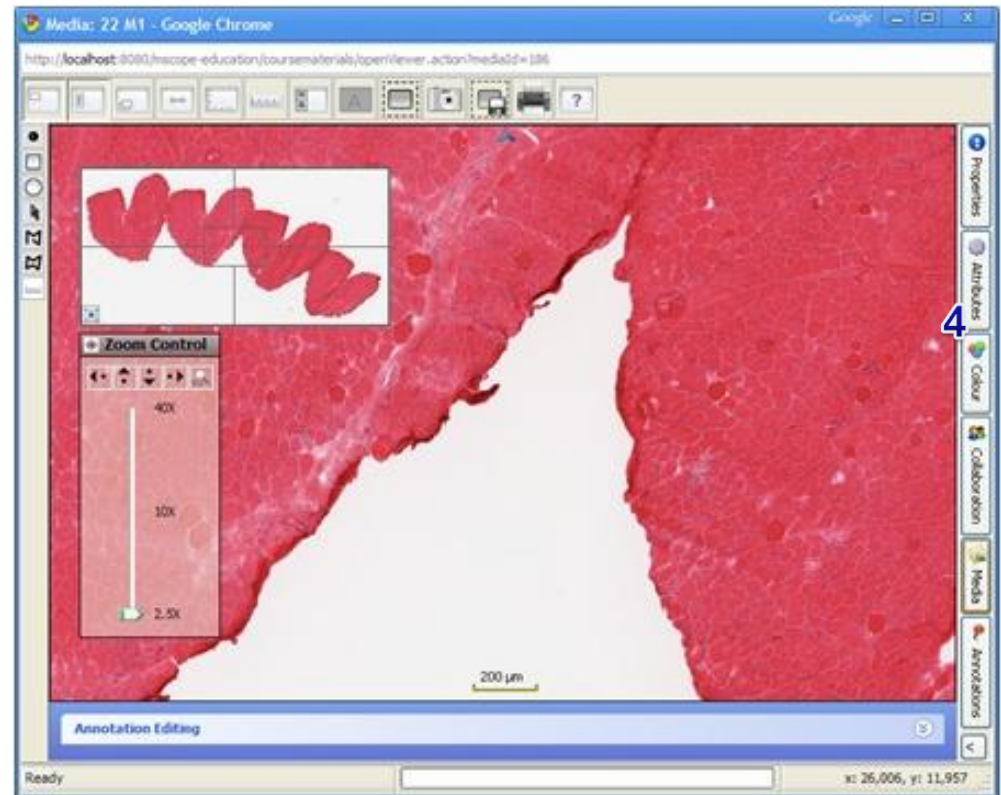
**Attributes:** Listing all mScope attributes as well as information pulled from the file.

**Color:** Allows you to temporarily adjust the image display. These settings are not saved.

**Collaboration:** Allows multiple users to share the view of a host and pass control back and forth. All actions done by the host are seen including the creation of annotations.

**Media:** Lists all media of a case and allows you to switch between images without going back to the portal.

**Annotations:** Drawing tools that enrich slides with detail.

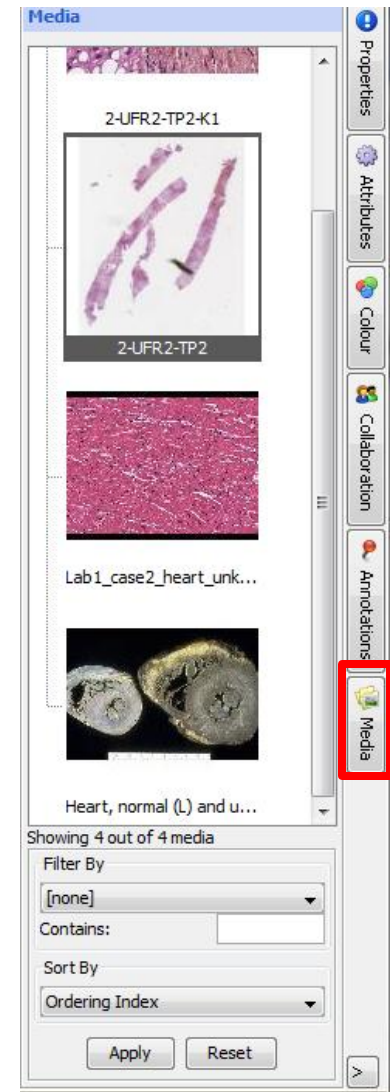


## 2. E. The mScope Portal – Viewer Media

All media associated with a case are displayed in the Media tab allowing you to switch without having to return to the portal.

You can also filter and sort the media list. By entering a requirement in the "Contains" text box, selecting the filter type and selecting apply you can display specific files (e.g. filtering on media containing UFR will return any files with UFR in the name).

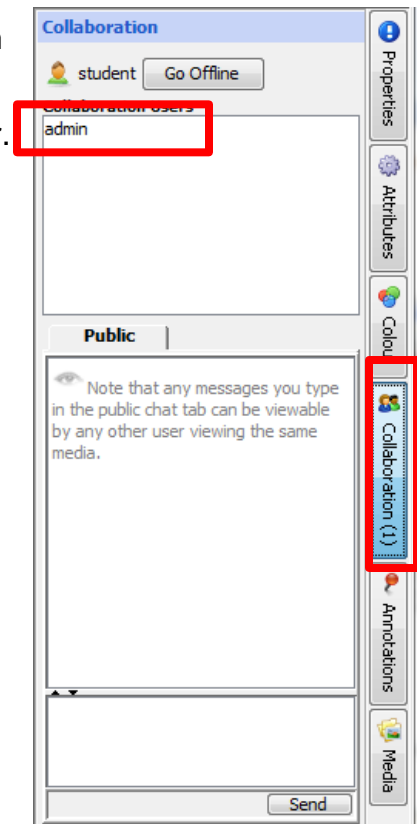
Sorting organizes the files based on the selection.



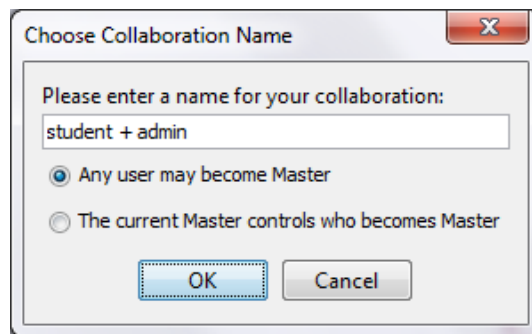
## 2. F. The mScope Portal – Viewer Collaboration

Collaboration creates a virtual multi-head microscope enabling users to work together from different locations.

When more than one user is viewing the same file the Collaboration tab displays a number. By double clicking users from the list you can invite them to join you.

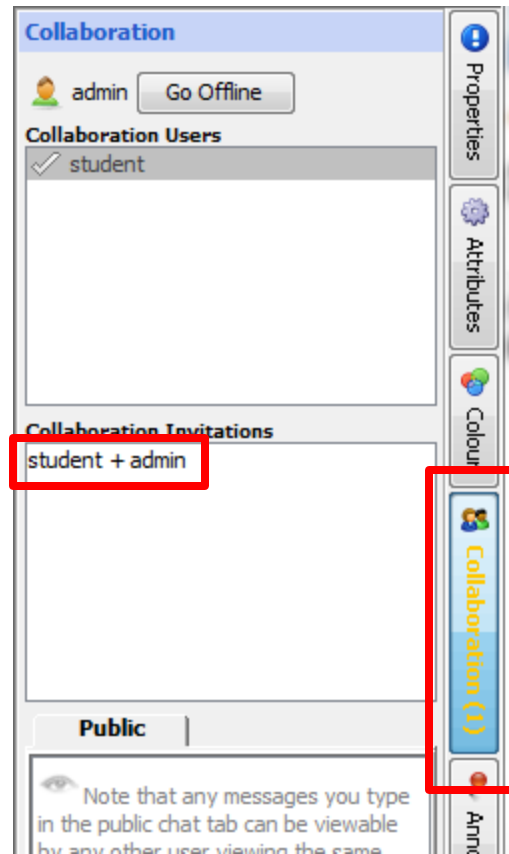


You can choose to have an open collaboration allowing others to take control of viewing at any time or have a closed collaboration where users must request permission to take control.



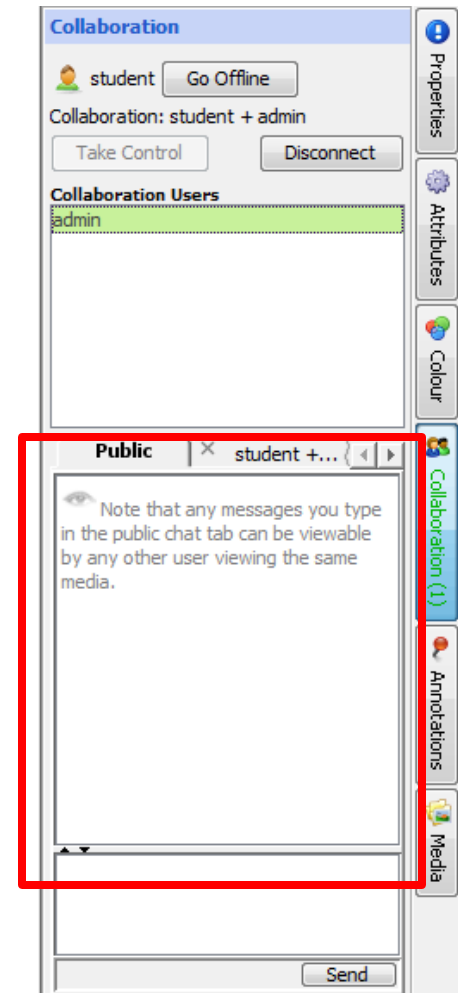
## 2. I. The mScope Portal – Viewer Collaboration

To signify a collaboration has been requested the color of the collaboration tab for the user being invited will turn yellow and the invitation will appear in the invitation list. Double clicking the invitation will start the collaboration.



## 2. I. The mScope Portal – Viewer Collaboration

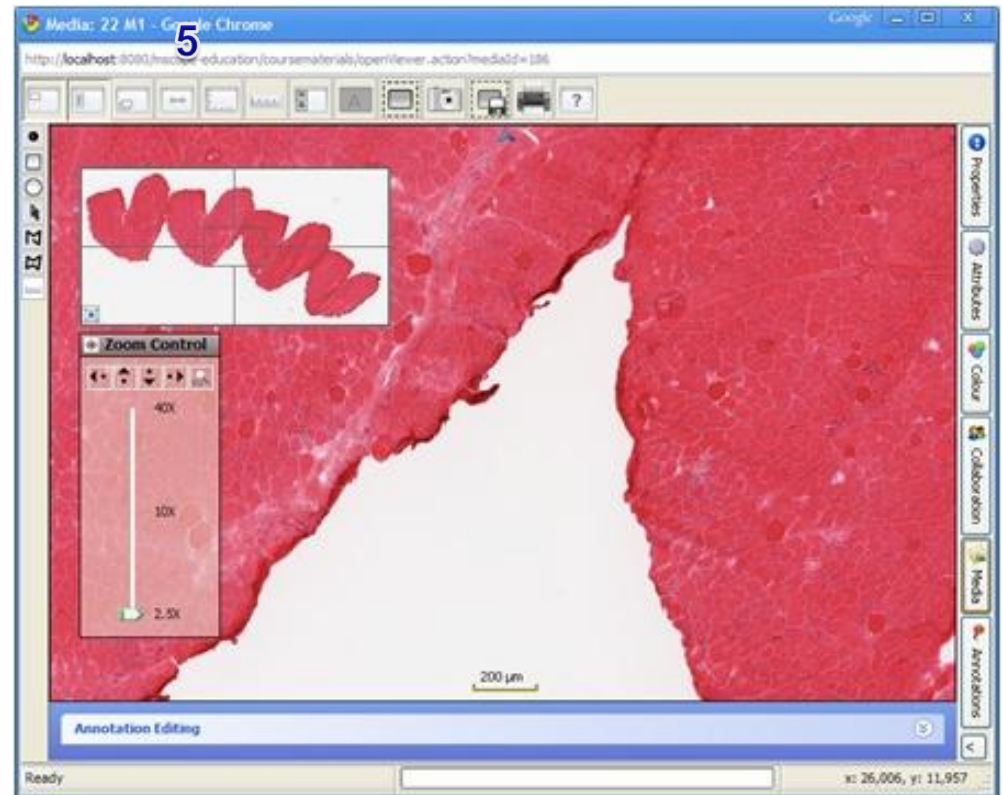
All users in a collaboration will see what the host is viewing. If the host pans or zooms on the image it will immediately update for everyone. Additionally, annotations will appear in real time as well. mScope provides a chat section allowing you to communicate with others if you are unable to use VOIP or the phone.



## 2. G. The mScope Portal – Viewer Tools

The **Tools (5)** at the top of the Viewer allow you to:

- Hide the Navigation control
- Cycle through tag and whole slide images (if available)
- Switch view modes
- Take snapshot
- Print
- Add a grid
- Add a ruler
- View attributes
- See basic help

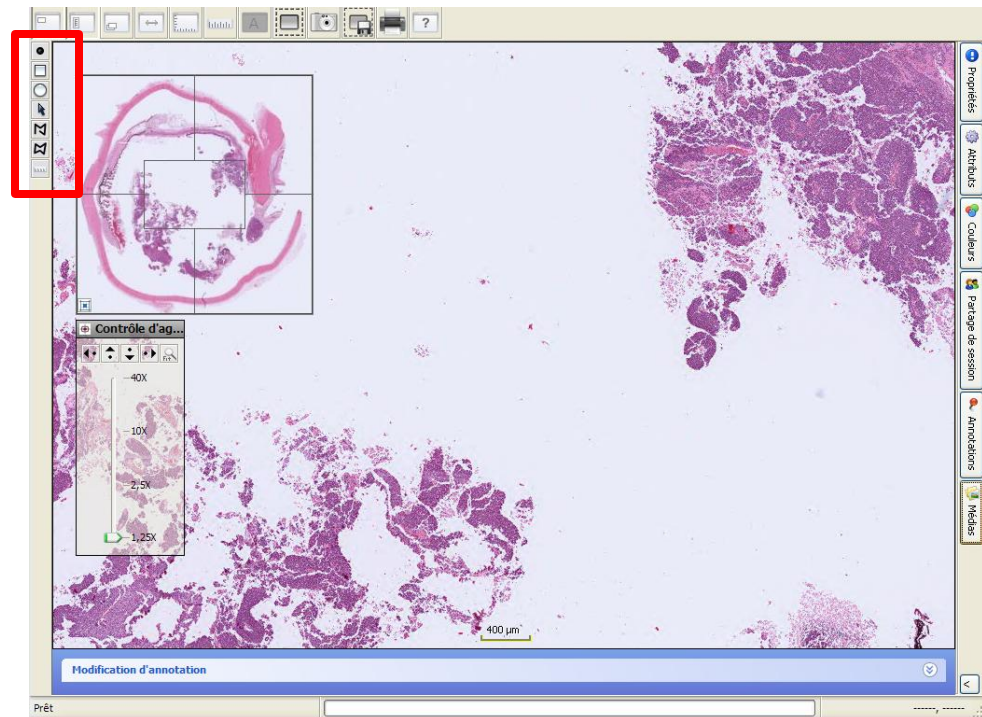


## 2. H. The mScope Portal – Viewer Annotations

The "Annotation Tools " (6) allow you to enrich content by identifying areas of interest with shapes that include descriptions. Annotations are specific to the instance of an image. For example an annotation in a case in Studies may have different annotations from a copy in the Knowledge Base.

mScope supports seven annotation types.

- Point
- Rectangle
- Ellipse
- Arrow
- Polyline
- Polygon
- Ruler (only available if image has conversion information available)





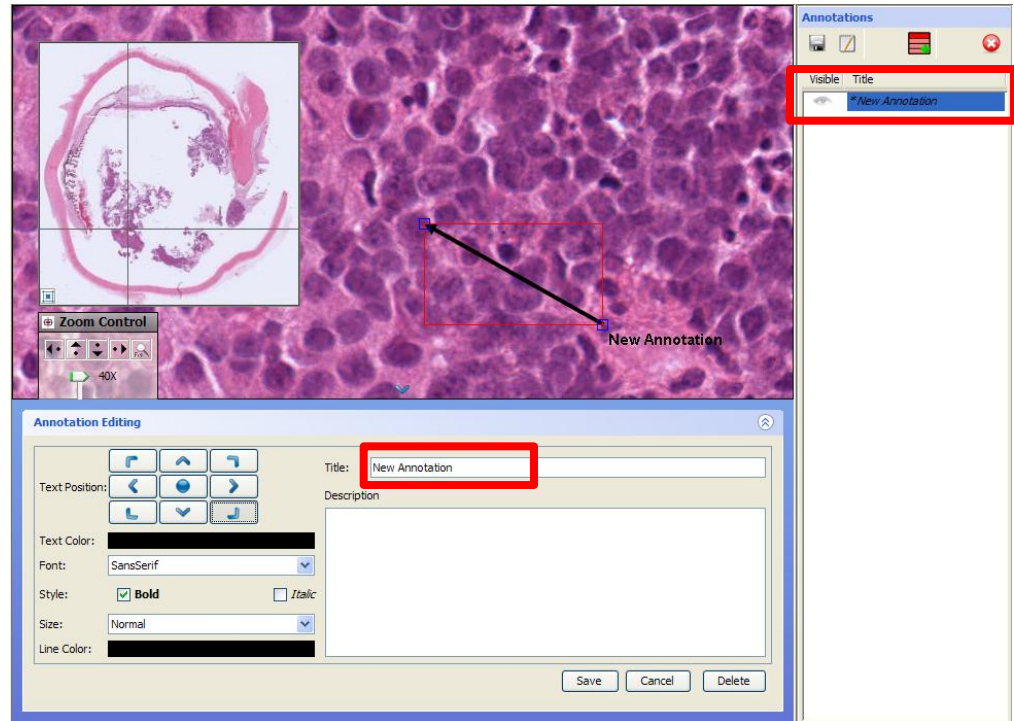
## 2. H. The mScope Portal – Viewer Annotations

Arrow, circle, rectangle, tape annotations are drawn by **left clicking the start and dragging to the end** before releasing.

Polyline and polygon annotations are drawn by **left clicking the points that define them**.

The annotation editor appears at the bottom of the viewer. The title defaults to "new annotation" and the description is empty. The new annotation also appears in the annotation tab identified by its title.

Annotations with unsaved changes will appear with a "\*" at the beginning of the Title in the annotation tab on the right.



## 2. H. The mScope Portal – Viewer Annotations

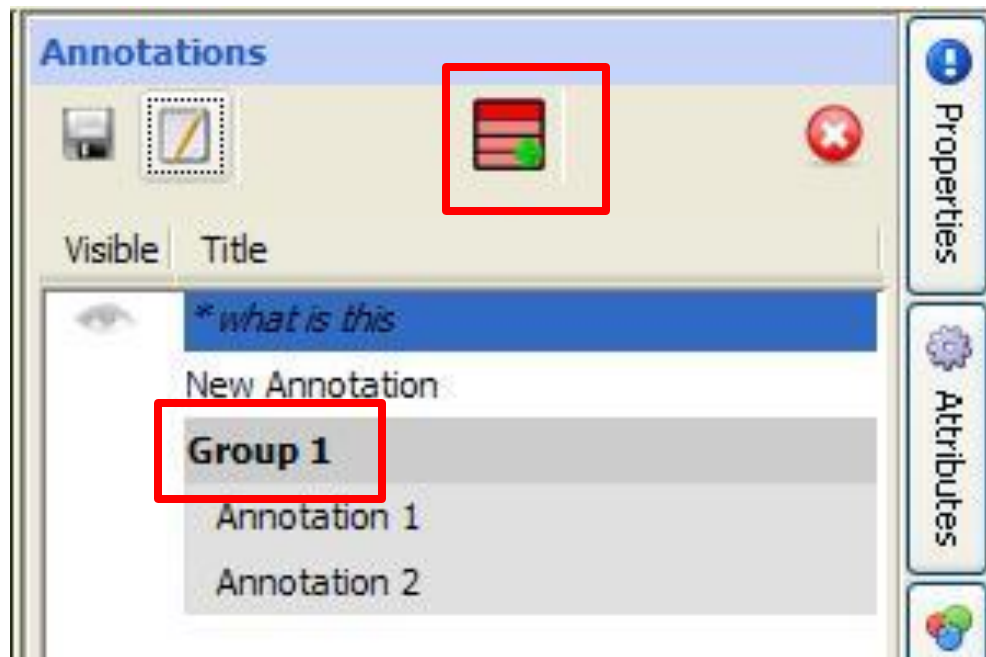
Once you've begun creating an annotation the editor appears at the bottom of the viewer. Annotations provide a Title and Description for adding descriptions located at the right of the editor. Additionally, you can change the Title position, color, font, and style. The color of the overall annotation can also be set.

For ellipse, rectangle and polygons which are closed shapes a filter color may be applied to highlight the area of interest.

The screenshot shows a dialog box titled "Modification d'annotation". It features a grid of nine directional arrow buttons for text positioning. Below these are fields for text color (black), font (SansSerif), style (Gras and Italique), and size (Normale). There are also fields for stroke color (black) and filter color (empty), with a "Réinitialiser" button. On the right, there is a "Titre:" field with the value "2" and a "Description" text area. At the bottom, there are "Sauvegarder", "Annuler", and "Supprimer" buttons.

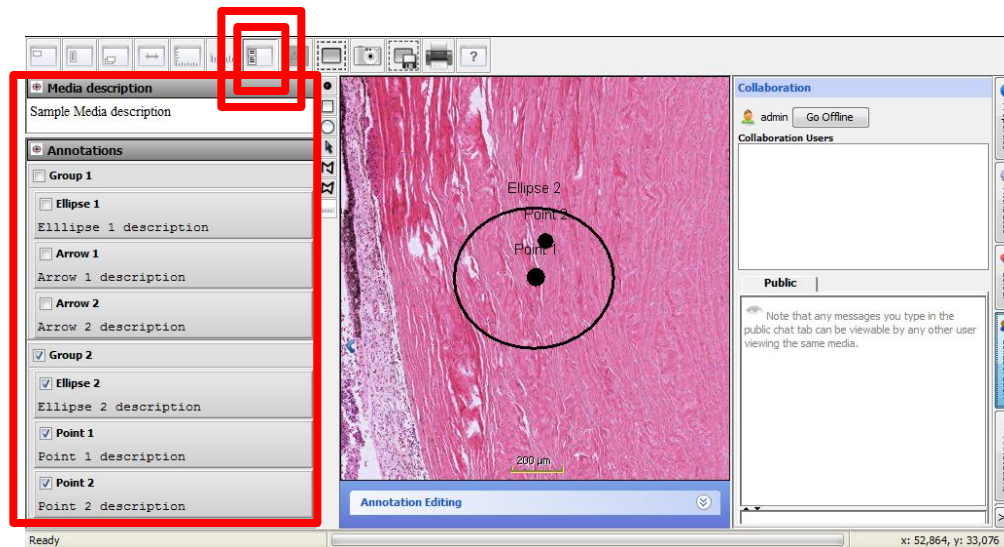
## 2. H. The mScope Portal – Viewer Annotations

Annotations may be grouped to display together. The group button allows you to create a group. To add annotations to it simply drag them under it. All annotations under a group are part of it.



## 2. H. The mScope Portal – Viewer Annotations

The "**Annotation side bar**" displays the media description if present and annotations along with their descriptions. Selecting the "**show/hide Annotation side bar**" button from the toolbar at the top of the viewer opens the side bar. You can view annotations and groups but you cannot modify them. The side bar allows you to navigate annotations while having another tool tab e.g Collaboration or Media open.



## 2. I. The mScope Portal – Case 1 of 4

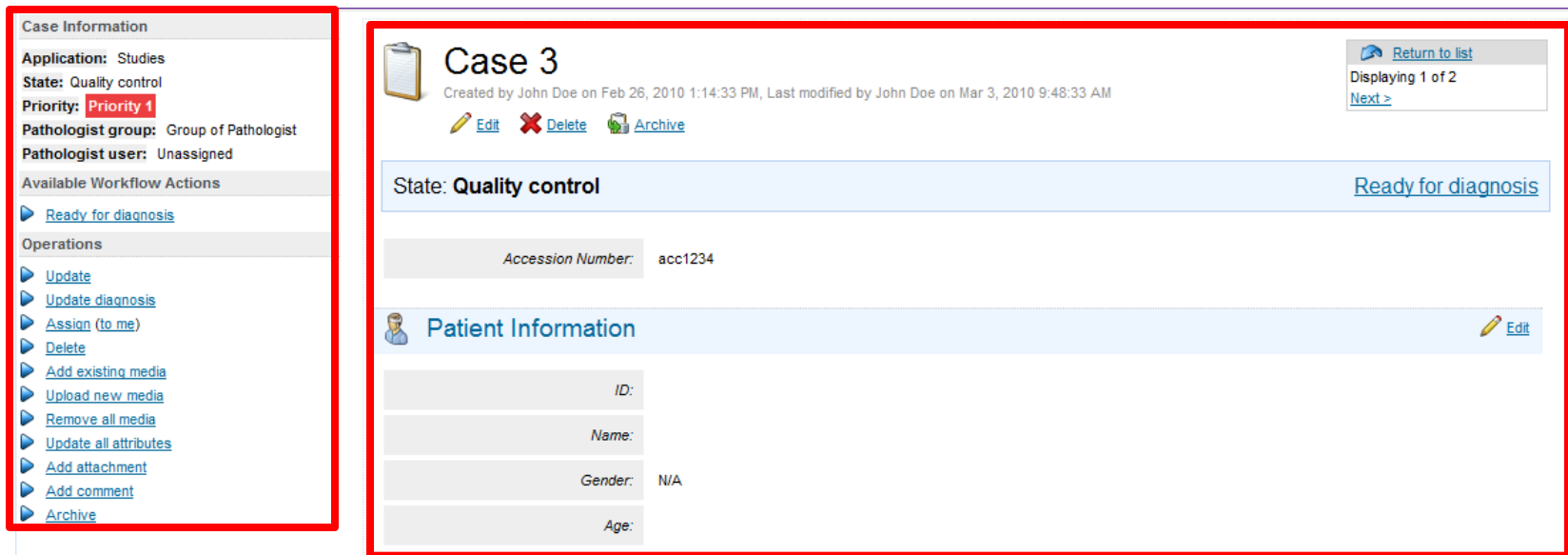
Studies connect the details of a case enabling informed diagnosis. It is structured with tools and workflow controls on the left and case information on the right .

The tools displayed are based on the user's permission and the study's position in the workflow.

Studies display the following details:

- Case ID – unique identifier that may or may not be the accession number
- Accession Number
- Patient Information – depending on what is required

**Note:** You can modify specific sections of a case by selecting  [Edit](#)



The screenshot displays the mScope Portal interface for Case 3. On the left, a sidebar titled 'Case Information' lists various actions under 'Available Workflow Actions' and 'Operations'. The main content area shows 'Case 3' with its creation and modification details, and options to 'Edit', 'Delete', or 'Archive'. Below this, the 'State' is 'Quality control' with a 'Ready for diagnosis' button. The 'Accession Number' is 'acc1234'. The 'Patient Information' section includes fields for ID, Name, Gender (N/A), and Age, with an 'Edit' button.

**Case Information**

**Application:** Studies  
**State:** Quality control  
**Priority:** **Priority 1**  
**Pathologist group:** Group of Pathologist  
**Pathologist user:** Unassigned

**Available Workflow Actions**

- ▶ [Ready for diagnosis](#)

**Operations**

- ▶ [Update](#)
- ▶ [Update diagnosis](#)
- ▶ [Assign \(to me\)](#)
- ▶ [Delete](#)
- ▶ [Add existing media](#)
- ▶ [Upload new media](#)
- ▶ [Remove all media](#)
- ▶ [Update all attributes](#)
- ▶ [Add attachment](#)
- ▶ [Add comment](#)
- ▶ [Archive](#)

**Case 3**  
Created by John Doe on Feb 26, 2010 1:14:33 PM, Last modified by John Doe on Mar 3, 2010 9:48:33 AM

[Edit](#) [Delete](#) [Archive](#)

**State: Quality control** [Ready for diagnosis](#)

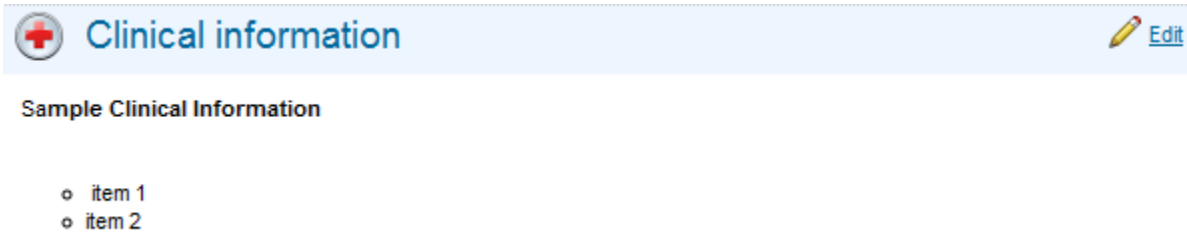
**Accession Number:** acc1234

**Patient Information** [Edit](#)

**ID:**  
**Name:**  
**Gender:** N/A  
**Age:**

## 2. I. The mScope Portal – Case 2 of 4

- Clinical Information – details about the patient, samples, etc.



The screenshot shows a user interface for 'Clinical information'. At the top left is a red cross icon in a circle. To its right is the text 'Clinical information' in blue. On the far right is a yellow pencil icon followed by the word 'Edit' in blue. Below this header is the text 'Sample Clinical Information'. Underneath, there is a bulleted list with two items: 'item 1' and 'item 2'.

## 2. I. The mScope Portal – Case 3 of 4

- Media – including whole slide images, gross images, and video
  - media list in the order they are detected but can easily be changed by dragging the number to the appropriate location
  - details such as annotations, attributes, and media names and descriptions can be changed by selecting the edit action




The screenshot displays the 'Media' management interface. At the top, there are three buttons: '+ Add existing media', 'Upload new media', and 'Remove all media'. Below this is a table with the following structure:

	Information	Annotations	Attributes	Actions
1*		prostate2-K1	No Annotations	
2		prostate2 sample description	New Annotation ▾	
3		example3_100x	No Annotations	

## 2. I. The mScope Portal – Case 3 of 4

- Diagnosis – the findings of the pathologist
- References – additional details

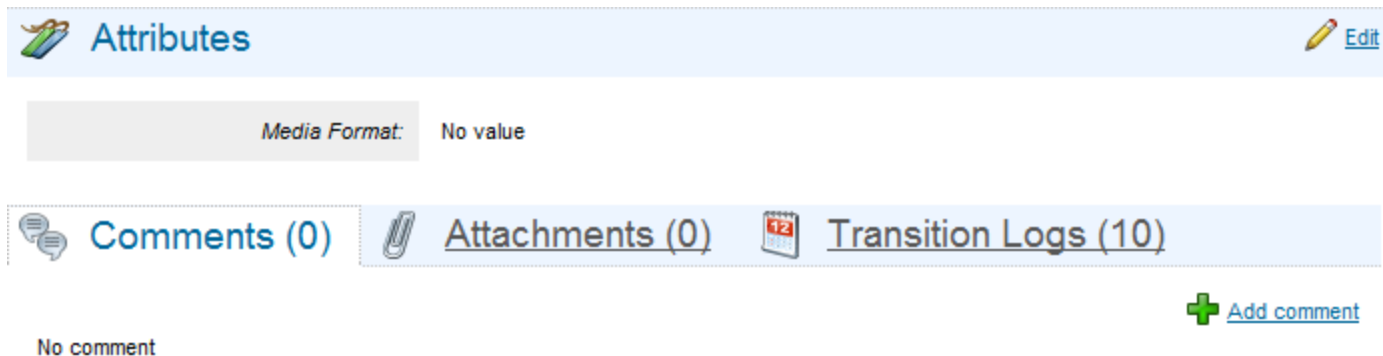
**Note:** Each of these sections are rich text fields that may contain bullets, images, and web links.



 <b>Diagnosis information</b>  <a href="#">Edit</a>
answer
 <b>References</b>  <a href="#">Edit</a>
No references






## 2. I. The mScope Portal – Case 4 of 4


- Attributes – meta-data for classifying,organizing, and searching (e.g. SNOMED)
- Comments
- Attachments – additional documents like word documents that require specialized software to view
- Transition log – displays the history of the case showing the time it spent at each step of the workflow



 **Attributes**  [Edit](#)

*Media Format:* No value

 **Comments (0)**  **Attachments (0)**  **Transition Logs (10)**


No comment 



## 2. J. The mScope Portal – Workflow

mScope provides a workflow mechanism for managing the life cycle of a case that may be customized to meet the needs of an organization. Based on the state of the case in the cycle specific Workflow actions will be available. These are:

- Ready for diagnosis – case is ready to be assigned to a pathologist
- Incomplete case – more information required before diagnosis can begin
- Start diagnosis – pathologist has accepted the case
- Stop diagnosis – pathologist is unable to work on the case
- Request opinion – pathologist requests a consult
- Cancel opinion
- Ready for opinion – the case is ready for the consultant to view
- Start opinion – the consultant has accepted the case

Workflow actions are available both in the tools section on the left of the page as well as the case below the title.

 **Case 3**  
Created by John Doe on Feb 26, 2010 1:14:33 PM, Last modified by John Doe on Mar 4, 2010 1:01:03 PM

 [Edit](#)  [Archive](#)

[Return to list](#)  
Displaying 1 of 2  
[Next >](#)

**Case Information**

**Application:** Studies  
**State:** Diagnosis in progress  
**Priority:** **Priority 1**  
**Pathologist group:** Group of Pathologist  
**Pathologist user:** John Doe

**Available Workflow Actions**

- [Complete diagnosis](#)
- [Stop diagnosis](#)
- [Request an opinion](#)

**Operations**

- [Update](#)
- [Update diagnosis](#)
- [Assign](#)
- [Add existing media](#)
- [Upload new media](#)
- [Remove all media](#)
- [Update all attributes](#)
- [Add attachment](#)
- [Add comment](#)
- [Archive](#)

State: **Diagnosis in progress**    [Complete diagnosis](#)    [Stop diagnosis](#)    [Request an opinion](#)

## 2. K. The mScope Portal – Operations

Operations list the actions available to the user. These vary based on the user's permissions and the state of the case in the workflow cycle.

- Update – opens all sections of the case for editing
- Update diagnosis – opens the diagnosis field for editing
- Assign – selects the user and group(s) which are responsible for the case
- Delete – removes the case
- Add existing media – opens the list of unassigned files in Modalities for selection
- Upload new media – allows adding media files from user's computer
- Remove all media
- Update all attributes – opens all attributes for editing
- Add attachment – allows adding non-media files from the user's computer
- Add comment
- Archive – move the case out of the active case list
- Add specialists – select the users you would like to consult on a case with

The screenshot displays the mScope Portal interface. It is divided into two main sections: 'Case Information' and 'Available Workflow Actions'. The 'Case Information' section includes fields for Application (Studies), State (Diagnosis in progress), Priority (Priority 1), Pathologist group (Group of Pathologist), and Pathologist user (John Doe). The 'Available Workflow Actions' section lists several actions with blue play button icons: Complete diagnosis, Stop diagnosis, and Request an opinion. Below these, the 'Operations' section is highlighted with a red rectangular box. This section contains a list of actions, each with a blue play button icon: Update, Update diagnosis, Assign, Add existing media, Upload new media, Remove all media, Update all attributes, Add attachment, Add comment, and Archive.

## 2. L. The mScope Portal – Opinions



The Opinions module is a case list like the Studies with the exception that it is focused on handling consultation instead of primary diagnosis. Studies are managed, viewed, and documented the same way they are in the Study module.

The screenshot shows the mScope Clinical interface. The 'Opinions' tab is selected and highlighted with a red box. The main content area displays a table of cases under the heading 'All Cases'. The table has the following columns: Priority, Date Created, State, Case ID, Pathologist user, Specialist group, Specialists, Attributes, Media, and Actions. A single case is listed with a priority of 1, date 26/02/2010, state 'Opinion pending', and case ID 'Case 3'. The pathologist user is John Doe, and the specialist group is 'Group of Pathologist'. The specialists listed are 'Specialist #1: User Pathologist' and 'Specialist #2'. The attributes are 'No Attribute', and there are three media thumbnails shown.

↑ Priority	Date Created	State	Case ID	Pathologist user	Specialist group	Specialists	Attributes	Media	Actions
Priority 1	26/02/2010	Opinion pending	<a href="#">Case 3</a>	John Doe	Group of Pathologist	Specialist #1: User Pathologist #2	No Attribute		


## 2. L. The mScope Portal – Opinion


An opinion is rendered by selecting “Start” from the State section or the “Opinions” section located near the bottom of the case. Selecting “Send back to Draft” allows the owner to make changes before continuing.

 **Case 3**  
Created by John Doe on Feb 26, 2010 1:14:33 PM, Last modified by John Doe on Mar 4, 2010 2:16:45 PM  
 [Archive](#)

[Return to list](#)  
Displaying 1 of 1

State: **Opinion pending**      [Send back to Draft](#)   [Start opinion](#)

 **Opinions**

	Specialist	Date	Rating	Explanation	Actions
1	User Pathologist #2			Waiting for opinion...	 Start

## 2. M. The mScope Portal – Panel Discussions

To handle group discussions including tumor boards the Panel Discussion module allows multiple users to work together on cases.

Cases are listed by state on the left and the panels you are a member of display on the right along with cases. Unlike Study and Opinion cases any member of a panel can add annotations, and modify data fields including clinical, diagnosis.

The screenshot shows the mScope Clinical web application interface. At the top left is the mScope Clinical logo. At the top right is the AURORA MSC logo and a user welcome message for John Doe with links for Administration, Log Out, and Help. Below the logo is a navigation menu with buttons for Studies, Opinions, Panel Discussions (highlighted), Knowledge Base, Modalities, and Search Results. A search bar is located to the right of the navigation menu. Below the navigation menu is a 'New case' button with a green plus icon. On the left side, there is a sidebar with a tree view showing 'All cases (1)' and 'Cases by state' with sub-items: Draft (0), Open (1), Expired (0), Closed (0), and Archived Cases (0). The main content area features a 'Panel Discussions' section with a clock icon and a description: 'The panel discussions module is a communications tool that brings medical experts together to review interesting and/or difficult cases and discuss diagnoses and treatment options.' Below this is a 'Panel 1' section with a clipboard icon, listing '3 Members : John Doe, User Pathologist #1, User Pathologist #2' and case status counts: Draft (0), Open (1), Expired (0), Closed (0). A blue button on the right of the panel section shows 'All cases 1'.

## 2. N. The mScope Portal – Knowledge Base

The Knowledge Base is a repository for rare and sample studies that have had patient information removed. Studies are handled similarly to Study and Opinion cases with the exception that they have no workflow information.

Studies in the knowledge base can be filtered based on attributes. This allows you to quickly pull all examples containing the area of interest.




The screenshot shows the mScope Clinical Knowledge Base interface. The navigation bar includes tabs for Studies, Opinions, Panel Discussions, Knowledge Base, Modalities, and Search Results. A dropdown menu for 'Media Format' is open, listing options: Microbrightfield, Aperio, MPEG Video, Hamamatsu, Aurora, Flat Images, Dicom, Olympus, and Zeiss. The main content area displays 'All Cases' with a '+ New case' button. Below this is a table with columns: Case ID, Attributes, Media, and Actions. The table shows two cases: 'disease x' and 'disease y', both with 'No Attribute' and associated media thumbnails.

Case ID	Attributes	Media	Actions
<a href="#">disease x</a>	No Attribute		
<a href="#">disease y</a>	No Attribute		

## 2. O. The mScope Portal – Modalities

Modalities maps all media producing hardware that are attached to the portal cataloging all media they create. Any media not assigned to a case appear here. In an integrated system media are automatically assigned to the appropriate case so the media list is empty. However, if a file cannot be matched for some reason (e.g. smudged barcode) the file will be held here to be manually assigned “Classified” to a case.

The screenshot shows the mScope Clinical portal interface. The top navigation bar includes 'Studies', 'Opinions', 'Panel Discussions', 'Knowledge Base', 'Modalities' (selected), and 'Search Results'. The user is logged in as 'John Doe' and can access 'Administration', 'Log Out', and 'Help'. The main content area is titled 'Media List' and displays a table of media items. The table has columns for 'Media', 'Reference ID', 'Media Server', 'Scan Date', 'Ingestion Date', and 'Actions'. Three items are listed, each with a 'Classify' button. The first item is '1M25' with a smudged barcode image. The second is 'Radio0002' with a dark image. The third is 'Radio0003' with a dark image. The page also shows a sidebar with 'All media (58)', 'Media by server', and 'Default MSC Media Server (58)'. The table includes pagination: 'Display 41 to 58 of 58 | First | Previous'.

Media	Reference ID	Media Server	Scan Date	Ingestion Date	Actions
	<b>1M25</b> vhdd_slides\slides\zeiss\1M25\Slidedat.ini	Default-MSC-MediaServer	Nov 20, 2006 12:15:14 PM	Nov 5, 2009 6:17:42 PM	<a href="#">Classify</a>
	<b>Radio0002</b> vhdd_slides\slides\jpeg\Radio0002.jpg	Default-MSC-MediaServer	Nov 27, 2006 2:20:36 PM	Nov 5, 2009 6:17:43 PM	<a href="#">Classify</a>
	<b>Radio0003</b> vhdd_slides\slides\jpeg\Radio0003.jpg	Default-MSC-MediaServer	Nov 27, 2006 2:22:39 PM	Nov 5, 2009 6:17:44 PM	<a href="#">Classify</a>



## 2. O. The mScope Portal – Modalities

Selecting “Classify” for a file in the media list brings you to the classification page which you use to find the case to assign the file to. You can add a file to a case in Studies, Opinions, or the Knowledge Base. If the case does not exist you can create it. Once the file has been classified it will be removed from the modalities list.

Welcome John Doe

### Classify Media

[<< Return to media list](#)

**Step 1: Choose your destination**

**Studies**  Opinions  Knowledge Base  Panel Discussions

**Step 2: Choose your case**

Cannot find the case you're looking for? Click here to [Create Case and Add Media](#)

Display 1 to 1 of 1

Case ID	Attributes	Media	Actions
<a href="#">Case 1</a>	No Attribute		<a href="#">Classify</a>

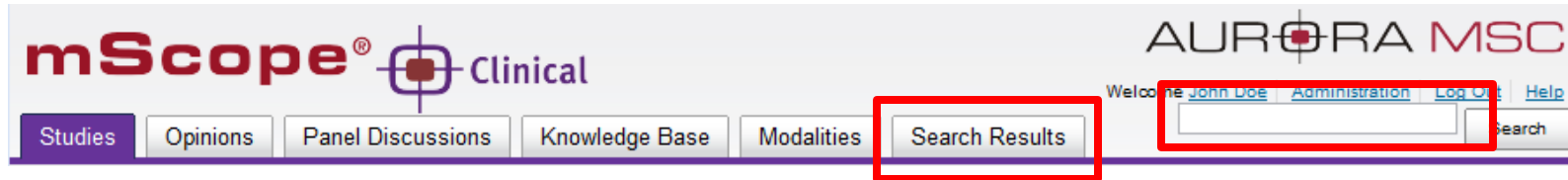
*Reference ID:* 1M25

*Scan Date:* Nov 20, 2006 12:15:14 PM

*Ingestion Date:* Nov 5, 2009 6:17:42 PM

## 2. P. The mScope Portal - Search

Finding Cases can be done using the "Search" module. mScope searches Cases for instances of text returning the resulting list.



The following example shows the results of search for "Sample". Any text containing "Sample" is selected.

You can quickly find cases based on patient and case related details.

The screenshot shows the search results page of the mScope Clinical portal. The search input field contains 'Sample' and is highlighted with a red box. The search results table shows a single case with 'Sample Case 1' highlighted in blue. The search tips panel on the right provides guidance on search syntax.

Priority	Date Created	State	Case ID	Pathologist group	Pathologist user	Attributes	Media	Actions
Priority 3	11/08/2009	Diagnosis pending	<a href="#">Sample Case 1</a>	Pathologist Group A	Harriet Brown	No Attribute		

Search Tips

- Case Properties
  - Case ID
  - Diagnosis
  - Clinical information
  - Patient Name
  - Patient ID
  - Attribute values
- Wildcard Characters
  - ? Character: Searching on `bra?il` will bring you results that match `brazil`, `brasil`, ...
  - \* Character: Searching on `Autoimmune ha*` will bring you results that match `Autoimmune hemolytic anemia`, `Autoimmune hepatitis`, ...
- Word Matching
  - The search results are NOT case sensitive

Search tips are provided on the right of the page.