



EZ Dent Vet
User Manual

This document should be used as a guide only to instruct on the EzDent Vet. For further assistance on this user's manual or EzDent Vet, contact your dealer.

The User Manual that comes with the product may not contain the most updated information on the product.

Version: Rev.0

Date: 2017-05-12

Please note that this information is for proper use and safety of the EzDent Vet. The following symbols may indicate a hazardous situation in which, if not heeded, may result in serious injury or even death to the user or others, or damage to the equipment.




	<p>Used to emphasize essential information.</p> <p>Be sure to read this information to avoid incorrect operation.</p>
 <p>WARNING</p>	<p>Indicates warning and safety instructions. If not adhered to, it could result in death or serious injury to the user or others.</p>
 <p>CAUTION</p>	<p>Indicates a hazardous situation which, if not heeded, may result in minor or moderate injury to the user or others, or damage to the equipment.</p>

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Document revision history information, and distributed a revised document, the revised date has been recorded.

Version	Date	Writer	Description
Rev.0	2017/5/12	Gilbert	EzDent Vet 1.0.1 First release

1. Introduction to EzDent Vet

1.1 What is EzDent Vet?

EasyDent Vet is a Veterinary Dental Imaging Software Solution that stores, analyzes and diagnoses veterinary images that have been acquired through RAYENCE dental equipment.

In addition, images can be imported from other digital sources. The software also manages information on patients, tests and images through an internal database.

It also supports DICOM which allows excellent compatibility with other Radiography equipment and network programs.

EasyDent Vet functions as a central storage point for digital images and associated veterinary radiographic data. Images can be acquired directly from equipment that EasyDent Vet currently supports.

1.2 Copyrights

All software programs, files, data, manuals and other documents that are included in EzDent Vet are protected by the Copyrights Act and the Computer Program Protection Act. More details on copyrights are included in product CD or in End User License Agreement that appears when installing the product. Make sure to read it before using the product.



DICOM is the standard network protocol with regard to the digital medical image communication issued in ACR/NEMA.

2. System Requirements of EzDent Vet

2.1 System Requirements of EzDent Vet

- The recommended system requirements for a proper execution of EzDent Vet are as follows.
 - CPU :Intel® Core™ i5 or higher
 - Main memory(RAM) :4GB or higher
 - Monitor Resolution :1920 x 1080
 - Graphic Card
 - Intel Family :Intel GMA 950 or higher / Intel GMA X3500 or higher
 - Nvidia Family :Geforce FX5200 or higher
 - ATI Family :Radeon 9000 or higher
 - Graphic Card memory :256MB or higher(No main memory sharing)

- The recommended hard disk capacity requirements are as follows.
 - Memory occupancy of EzDent Vet :approx. 1GB
 - Cache Space :0 ~ 10240 MB (Optional)

- The operating systems supported by EzDent Vet are as follows.
 - Microsoft Windows 7(32bit / 64bit) Professional or higher
 - Microsoft Windows 10(64bit) Professional or higher

- The programs required to execute EzDent Vet are as follows.
 - Microsoft .Net Framework 3.5 SP1 or higher
 - VC++ redistribution package 2008 SP1

2.2 Start / Terminate EzDent Vet

2.2.1 Start the EzDent Vet


- Before running EzDent Vet, check device or system if it works correctly.
- Double-click the Launch EzDent Vet icon on the desktop and the Log-in window will pop up.



< Figure 1 Log-in >

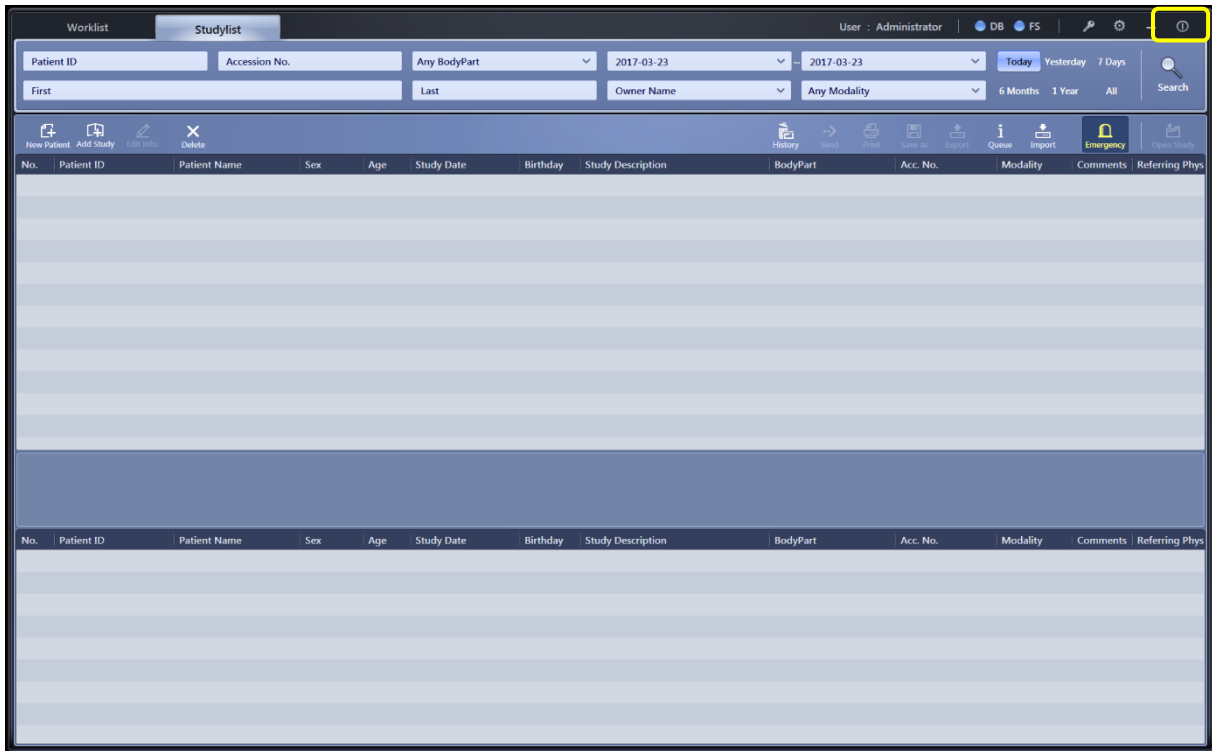


You should enter IP address of the Server in the first of execution.

- If you enter your ID & Password correctly and then click the  button on the right EzDent Vet will be started.

2.2.2 Terminate the EzDent Vet

- Go to the top of the main screen and click the Exit button.



< Figure 2 System Menu >

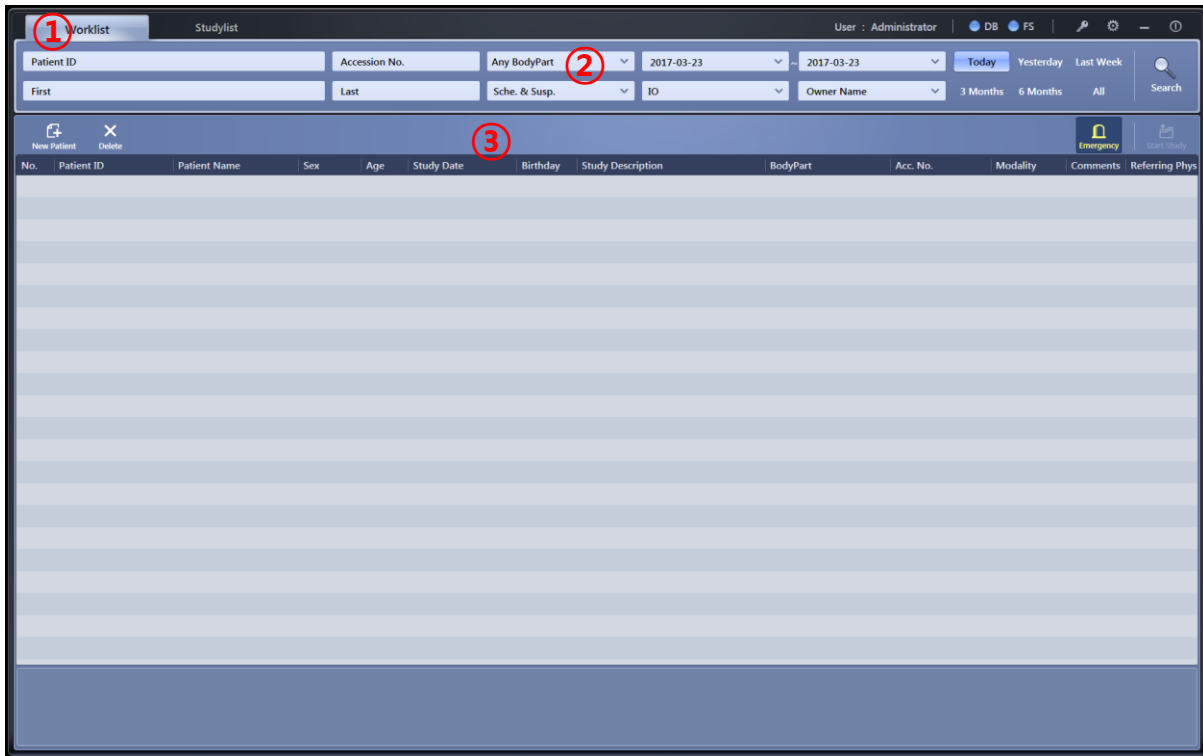


< Figure 3 System Menu >

- Click YES and the program will be terminated.

3. Worklist

3.1 Worklist Screen



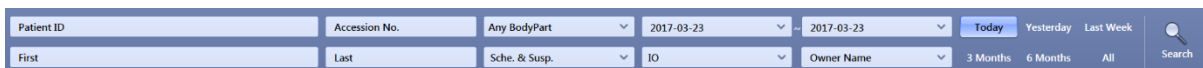
< Figure 4 Worklist >

- ① Main window toggle button and logo



- ② Search

- Search by a variety of search conditions : Patient ID, Accession No., Body Part, Date, Patient Name, Status, Modality.
- Search by period : Today, Yesterday, Last Week, 3 Months, 6 Months, All



③ Main Tools

- Tools include: New Patient, Delete, Emergency Image Acquisition, Start Study.

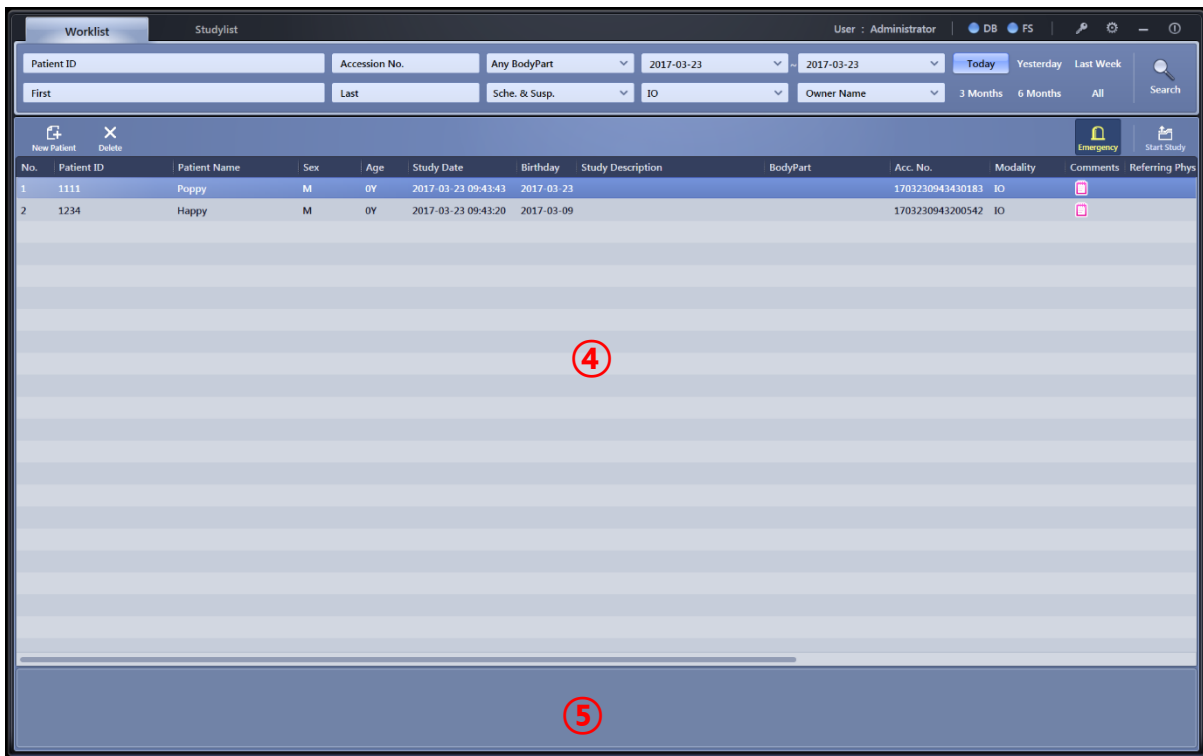


④ Main List

- Displays the list of patients to be inspected.

⑤ Thumbnail List

- Displays the list of study thumbnails selected from the Main list.



< Figure 5 Search >

3.2 Study Registration

- To start acquiring images, it is required to start a study.
- There are two different modes : manual registration and automatic registration (to be used for emergency image acquisition)..
- When connected to the Worklist server, the Worklist test information is automatically registered.



To search the studies from worklist server, install the DICOM worklist server and the server setting should be correct.

3.3 Register Study in Manual Mode

- Click the "New Patient" button and enter the details on the Study.



< Figure 6 New Patient >

New Patient

① Patient ID* ② Accession No.

③ Patient Name*

First Last

④ Owner Name

⑤ Birthday* 2017 3 23 ⑥ Age 0Y

Sex ⑦ M Neuter ⑧ Spay

Species ⑨ - Breed ⑩

Referring Physician ⑪

Study Description ⑫

Comments ⑬

⑭

- ① Patient ID : Enter the patient ID (required)
- ② Accession No. : Enter the patient's accession number
- ③ Patient Name : Enter the patient name (required)
- ④ Owner Name : Enter the owner name
- ⑤ Birthday : Enter the patient's date of birth (required)
- ⑥ Age : It is automatically calculated based on the date of birth. Input the age and press the <Enter> key on the keyboard. The birth year will be changed accordingly
- ⑦ Sex : Enter the patient's gender
- ⑧ Neuter, Spay : Check the neutralization

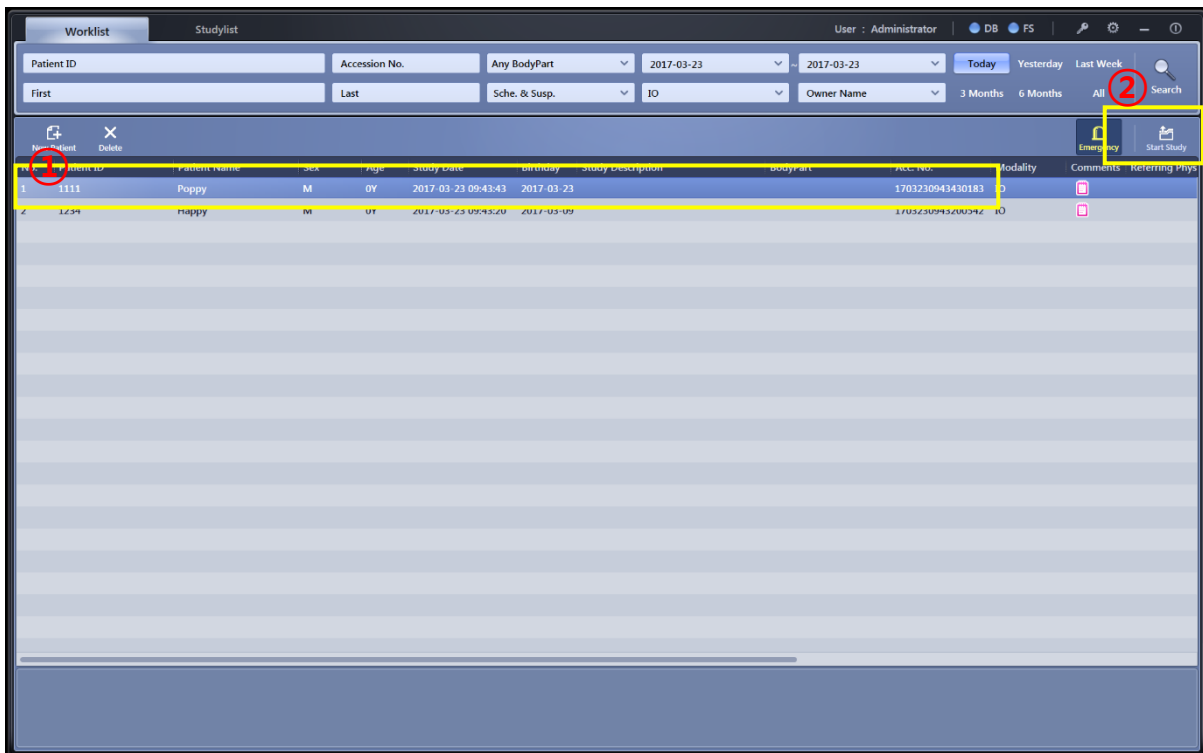
- ⑨ Species : Select the species
- ⑩ Breed : Select the breed
- ⑪ Referring Physician : Enter the physician information.
- ⑫ Study Description : Enter the study description
- ⑬ Comments : Enter additional information about the patient
- ⑭ Register : Save and apply registration

Capture : Register the information on study and switch to the capture Mode

Cancel : Cancel the operation of entering study information.

4. Capture

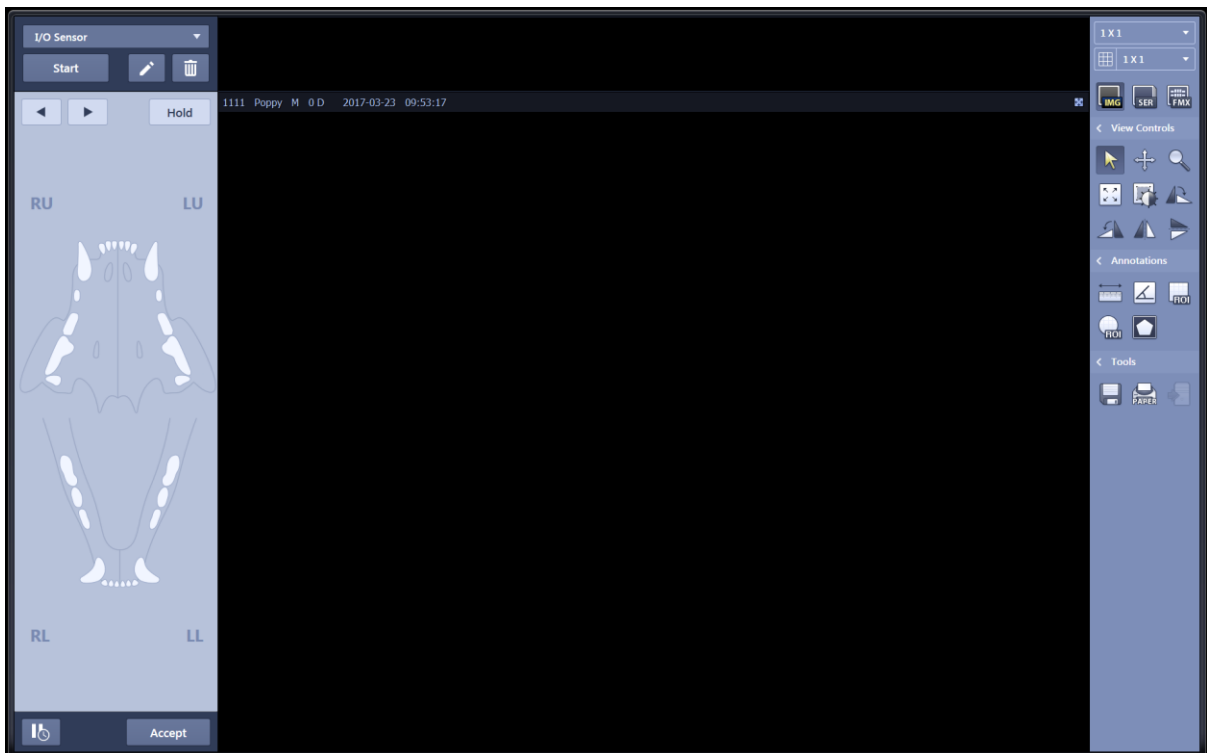
4.1 Take Images



< Figure 7 Start Study >

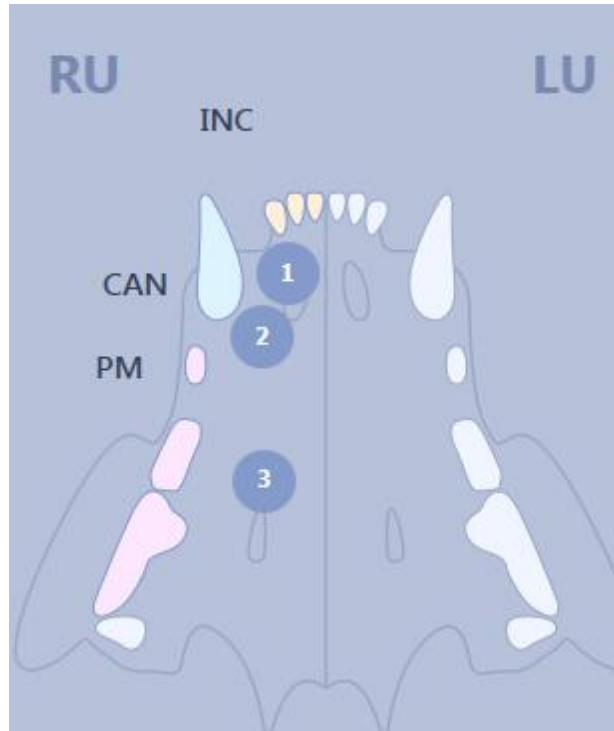
- ① Select the study information to begin image acquisition in Worklist.
- ② Click the "Start Study" button.

4.2 Capture Screen



< Figure 8 Capture Screen >

4.3 Select Tooth



< Figure 9 Select Tooth >

- ① Click tooth area on the mouth graphic.
- ② Tooth area will be selected and number will be displayed in sequentially.

RU : Right Upper

LU : Left Upper

RL : Right Lower

LL : Left Lower

INC : Incisors

CAN : Canine

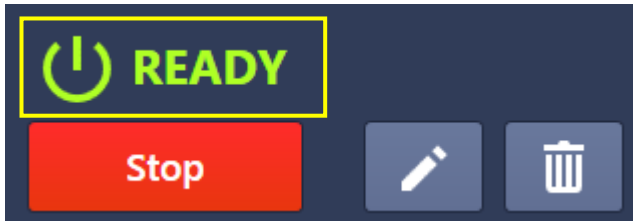
PM : Premolars

M : Molars

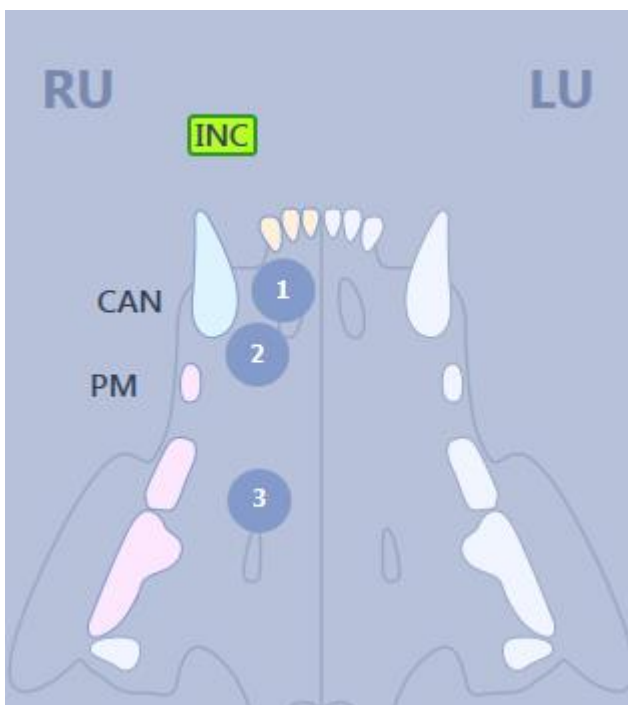


4.4 Acquire Image

- ① Click Start button to request ready to sensor.
- ② If the sensor is ready then 'READY' mark will be displayed.



- ③ The position mark also will be changed to green light.



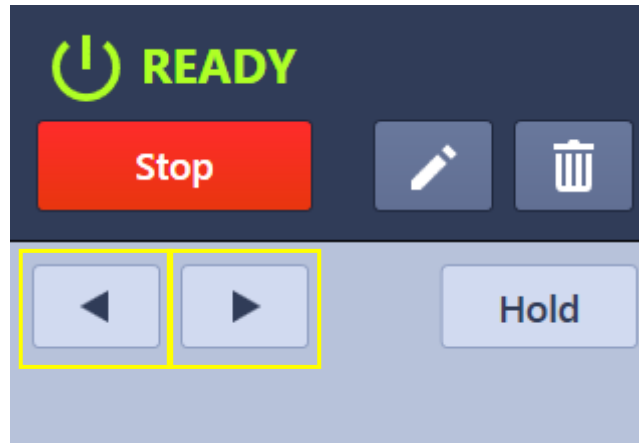
- ④ If acquisition is done then the image will be displayed and next position will be ready.



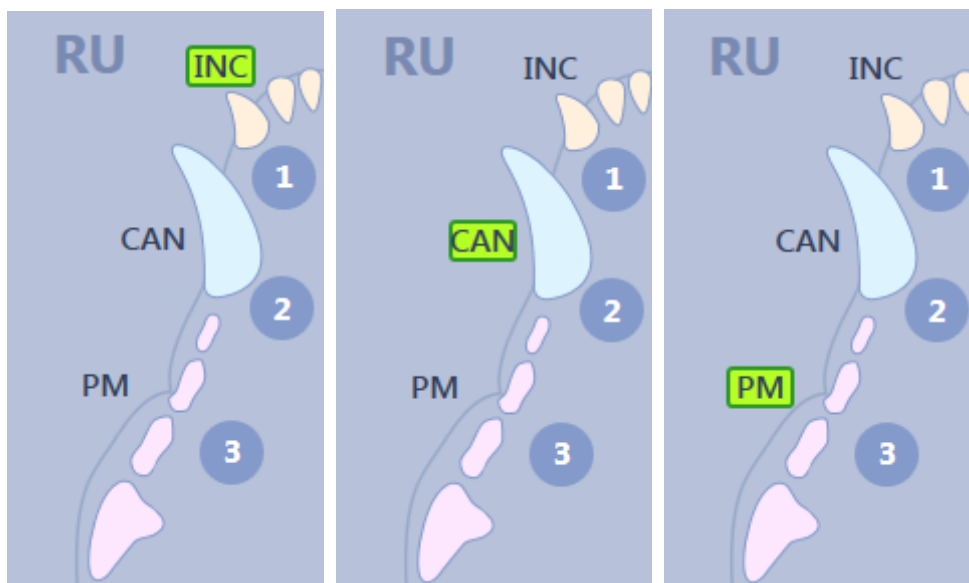
< Figure 10 Acquire Image >

- Change Next Position

Click Next or Previous button to change current ready position.



For Example: In case of click Next button.



< Figure 11 Go To Next Position >

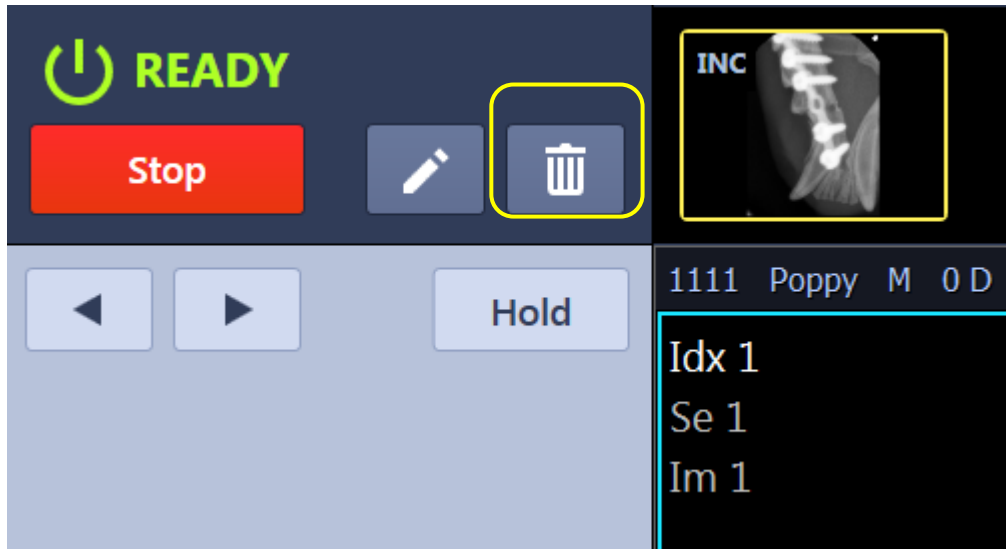
4.5 Accept



< Figure 12 Accept >

- Upon completion of study, click the "Accept" button on the bottom left corner of the screen.
- Terminating a study brings you back to the Worklist screen.

4.6 Reject



- Delete or Retake the selected Image Acquisition procedure.



- Warning! Take extra caution when executing Reject Image as the image is deleted upon completion of image acquisition.

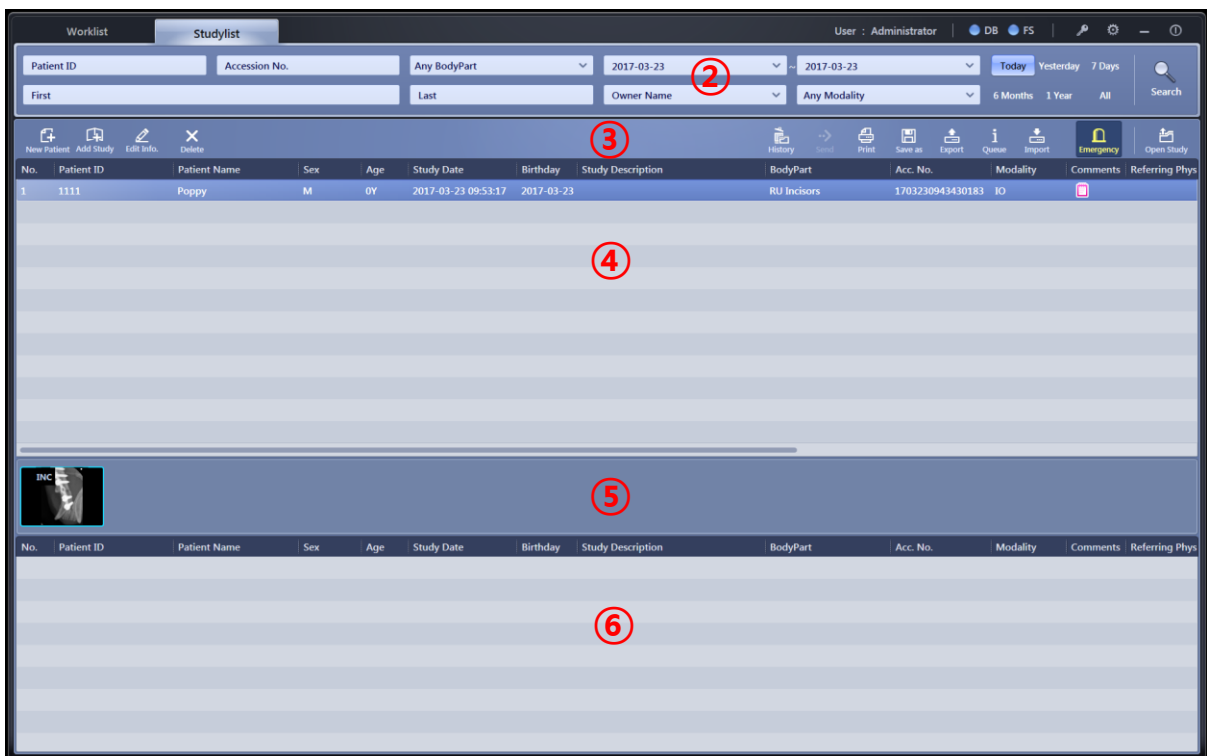
4.7 Suspend Study



- Suspend image acquisition and return to the Worklist window.
- If you redo the suspended study, it will be resumed from the last saved point.

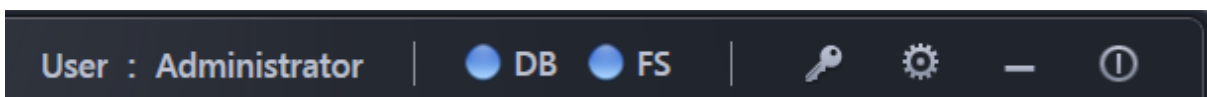
5. Studylist

5.1 Studylist Screen



< Figure 13 Studylist >

① Server Status, System Menu



- User account status
- Server status :Status Bar of Database and File server.
 - Blue : Server connected.
 - Red : Server disconnected.
- Log off

- Setting : EzDent Vet Setup Configuration
- Minimize : Minimization of the program window
- Exit : End the program

② Search



- Search by a variety of search conditions :Patient ID, Accession No., Body Part, Date, Patient Name, Modality, Etc.
- Search by period : today, Yesterday, 7 Days, 6 Months, 1 Year & All

③ Main Tools



- Edit study information, Study delete
- History Manager, DICOM send, DICOM Print, Save as, Export, Queue, Import
- Open Study

④ Main List

- Displays the list of completed studies.
- Change the header column location.

-You can change the order of Header Column with Drag & Drop.



⑤ Thumbnail List

- Display the list of thumbnails of studies selected from the Main list.

⑥ Reference List

- Display the list of patient's past study selected from the Main list.

5.2 Main Tools

5.2.1 New Patient

The screenshot shows the 'New Patient' form with the following fields and callouts:

- 1**: Patient ID* (text input)
- 2**: Accession No. (text input)
- 3**: Patient Name* (text input)
- 4**: Owner Name (text input)
- 5**: Birthday* (date picker)
- 6**: Age (text input)
- 7**: Sex (dropdown menu)
- 8**: Neuter (checkbox)
- 9**: Species (dropdown menu)
- 10**: Breed (dropdown menu)
- 11**: Referring Physician (dropdown menu)
- 12**: Study Description (dropdown menu)
- 13**: Comments (text area)
- 14**: Register (button)

Other visible elements include a toolbar at the top with icons for 'New Patient', 'Add Study', 'Edit Info', 'Delete', 'History', 'Send', 'Print', 'Save as', 'Export', 'Queue', 'Import', 'Emergency', and 'Open Study'. The form also includes a 'Generate' button next to the Accession No. field, a 'Search' button next to the Patient Name field, and another 'Search' button next to the Owner Name field. There are also checkboxes for 'Neuter' and 'Spay'.

① Patient ID : Enter the patient ID (required)

② Accession No. : Enter the patient's accession number

- ③ Patient Name : Enter the patient name (required)
- ④ Owner Name : Enter the owner name
- ⑤ Birthday : Enter the patient's date of birth (required)
- ⑥ Age : It is automatically calculated based on the date of birth. Input the age and press the <Enter> key on the keyboard. The birth year will be changed accordingly
- ⑦ Sex : Enter the patient's gender
- ⑧ Neuter, Spay : Check the neutralization
- ⑨ Species : Select the species
- ⑩ Breed : Select the breed
- ⑪ Referring Physician : Enter the physician information.
- ⑫ Study Description : Enter the study description
- ⑬ Comments : Enter additional information about the patient
- ⑭ Register : Save and apply registration

Capture : Register the information on study and switch to the capture Mode

Cancel : Cancel the operation of entering study information.

5.2.2 Add Study

- Select a study you want to acquire image additionally and click 'Add Study' button.



5.2.3 Edit Info

- Select a study you want to modify and click "Edit Info".



- ① After editing, press the "Modify" button.

Edit Info.

Patient ID*	<input type="text" value="1111"/>	Accession No.	<input type="text" value="1703230943430"/>	<input type="button" value="Generate"/>
	First		Last	
Patient Name*	<input type="text" value="Poppy"/>	<input type="text"/>	<input type="button" value="Search"/>	
	First	Last		
Owner Name	<input type="text" value="David"/>	<input type="text"/>	<input type="button" value="Search"/>	
Birthday*	<input type="text" value="2017"/> ▾	<input type="text" value="3"/> ▾	<input type="text" value="23"/> ▾	Age <input type="text" value="0Y"/>
Sex	<input type="text" value="M"/> ▾	<input type="checkbox"/> Neuter	<input type="checkbox"/> Spay	
Species	<input type="text" value="FELINE"/> ▾	Breed	<input type="text" value="-"/> ▾	
Referring Physician	<input type="text"/>			
Study Description	<input type="text"/>			<input type="button" value="🗑"/>
Comments	<div style="border: 1px solid #ccc; height: 150px;"></div>			
				<input type="button" value="Modify"/> <input type="button" value="Cancel"/>

< Figure 14 Edit Info >

5.2.4 Delete

- ① Select a patient you want to delete from the Study List and click "Delete".



- ② The Delete Confirmation Dialog Box will be popped up.



< Figure 15 Study List >

- YES :Delete the selected study..
- NO :Cancel the Delete.
- Check Box :When deleting, Except for the images yet to be sent.



You should log in Administrator account for Study delete

5.2.5 History Manager: Administrator Only



- Search the study history.

History Manager
✕

All Images ▾

2017-03-23 ▾

~

2017-03-23 ▾

Today
Yesterday

7 Days
6 Months

1 Year
All

Search

No.	Patient ID	Patient Name	Acquisition Date	Procedure Step	Study Date
1	1111	Poppy	2017-03-23 17:35:35	RU Incisors INC	2017-03-23 09
Total : 1					

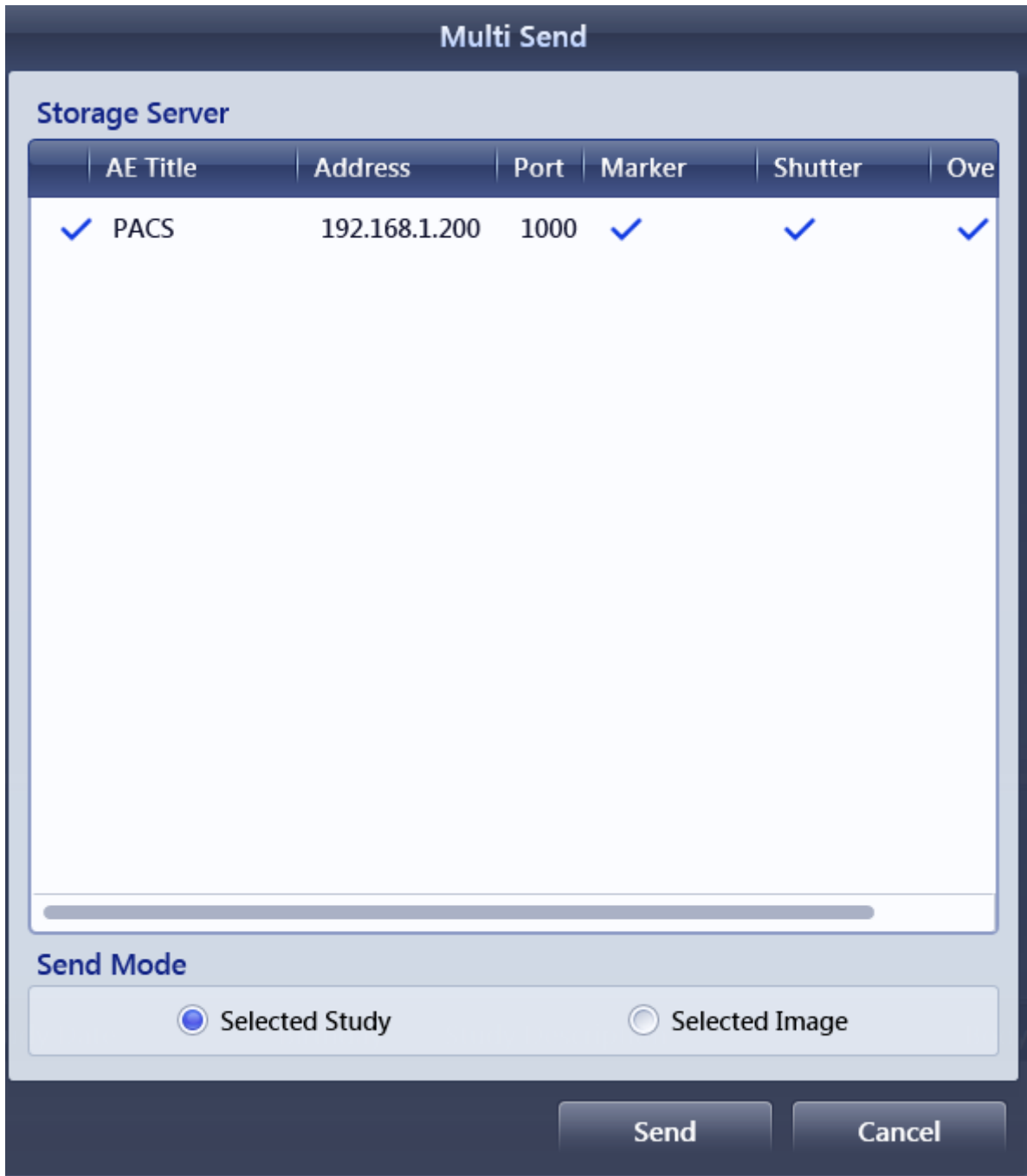
No.	Time	Operator	Action	Reason
1	2017-03-23 17:35:37	Administrator	Imported	

Study Manager
Statistic

< Figure 16 History Manager >

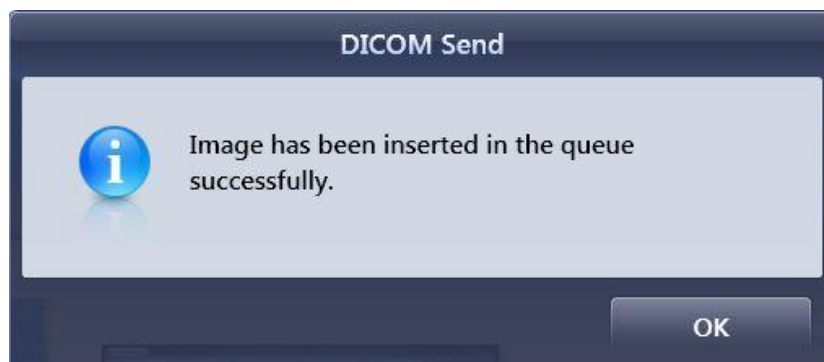
5.2.6 DICOM Send

- Send the selected study.



< Figure 17 Multi Send >

- Storage Server
 - Storage Server is registered in the list sent to select an item. (Multi selectable)
- Send Mode
 - Selected Study :Send all images in selected study.
 - Selected Image : Send the selected images.

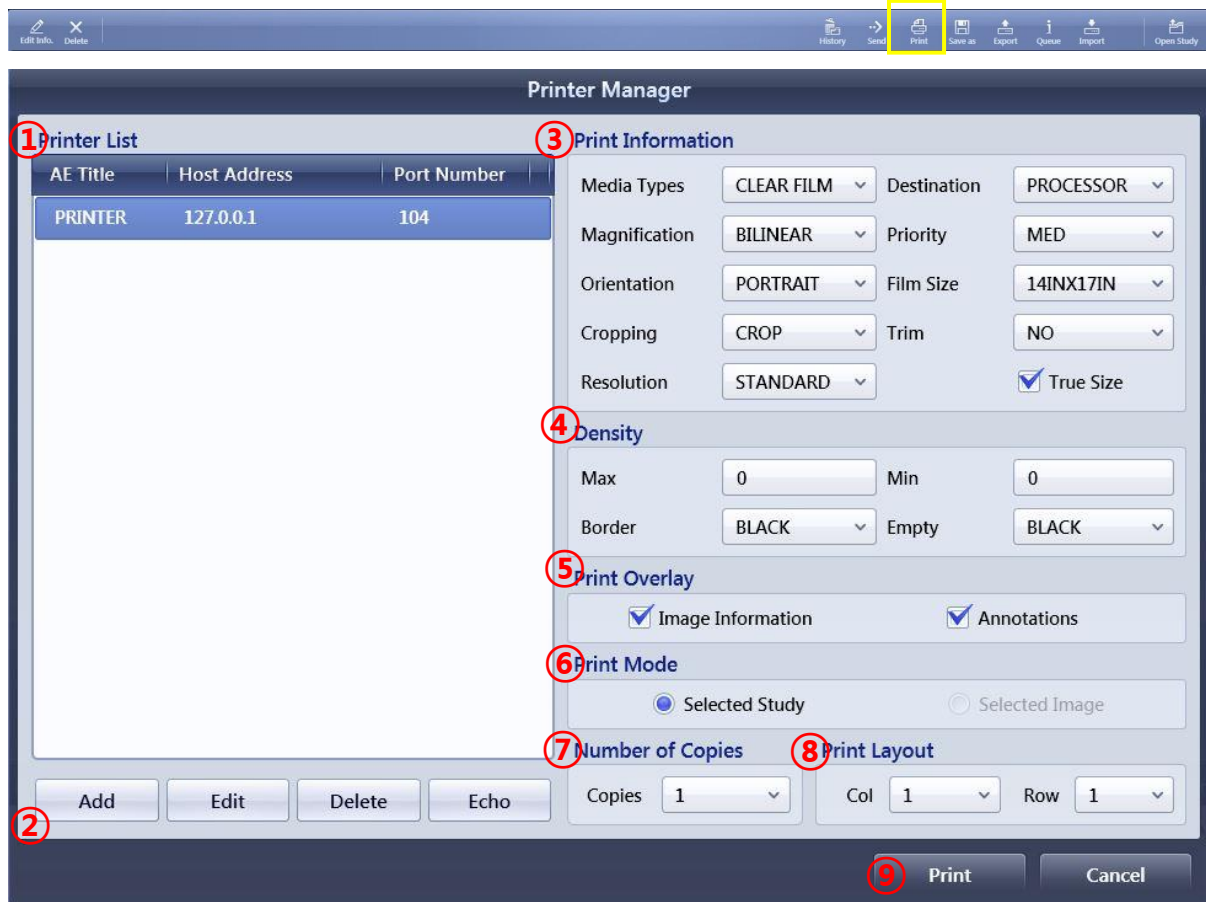


< Figure 18 DICOM Send >

5.2.7 Print

- DICOM Print

- Print the selected study to the DICOM Printer.



< Figure 19 Printer Manager >

- ① Printer List :List of connected printers.
- ② Add :Add a printer.
Edit :Edit the printer information.
Delete :Delete the printer information.
Echo :Check the connection on the printer.
- ③ Print Information
MediaTypes :Select the Paper or Film Type.

Destination :Select the properties.

Magnification :Choose magnification properties.

Priority :Select a priority.

Orientation :Select the image orientation. (landscape, portrait)

Film Size :Select the size of the film.

Cropping :Select the crop option.

Trim :Turn On/Off trim function.

Resolution :Select the resolution.

True Size : Real size printing option.

④ Density

Max :Input the Maximum value.

Min : Input the Minimum value.

Border :Select the film border options.

Empty :Select the film margin color.

⑤ Overlay

Image Information :Including image information is printed.

Annotation :Including Annotation data is printed.

⑥ Print Mode

Selected Study :Print all images in selected study.

Selected Image :Print the selected image.

⑦ Print Layout :Select the layout.

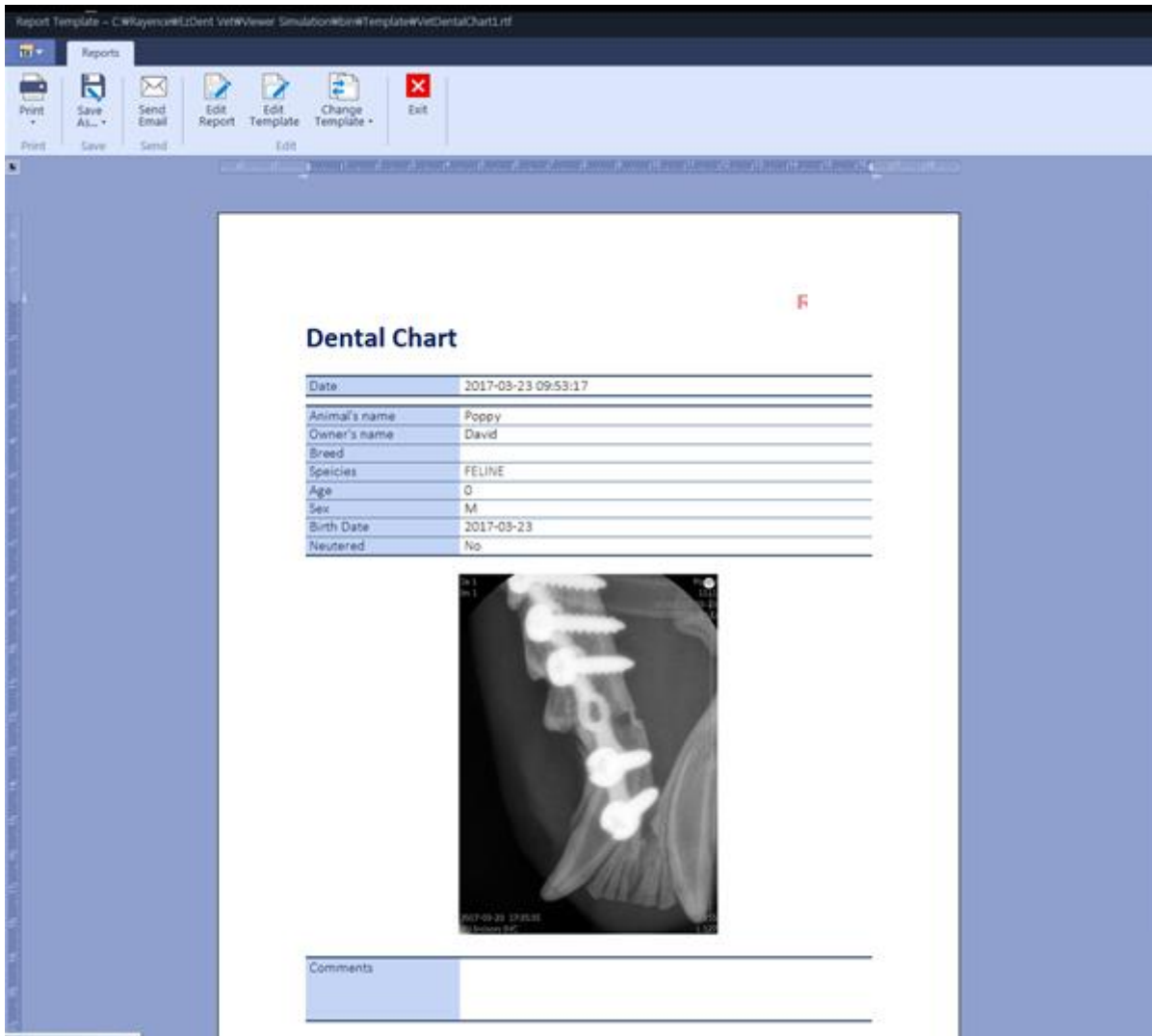
⑧ Number of Copies: Select the number

⑨ Print & cancel



Print registration is available to less than 20.

- Report
 - Selected item will be printed by Paper Print.



< Figure 20 Report >

5.2.8 Save As

- Save the selected study as another image file.





< Figure 21 Save As >

- Annotations :Include annotations.
- Image Information : Include image information.
- Current Display :Include current display.

5.2.9 Export

- Burn the selected study in a CD-ROM.(Viewer software included)



< Figure 22 Data Export >

- ※ Disk(Folder) : Save the study into a portable hard disk or user-defined path (Viewer included)



CD Viewer See the Chapter 10 CD Viewer.

5.2.10 Queue

- Show the transmission status of study.



< **Figure 23 Queue** >

- ① It shows the number of all studies and images that are currently being transmitted.
- ② It shows the list currently being transmitted.
- ③ Refresh :Refresh and update the list.
- ④ Abort :Abort transmission of the selected study. (The study whose transmission has already been started may not be canceled even if it is deleted from the list.)

- ⑤ Abort All : Abort all operations that are currently registered. (The study whose transmission has already been started may not be canceled although it is deleted from the list.)
- ⑥ Retry :Retry transmission.
- ⑦ Close : Close the Study Queue window.

5.2.11 Import

- Import the external images.



- Select Folder :Retrieve images from the selected folder.
- Select File :Retrieve the selected image.
- DICOM DIR : Retrieve the DICOM directory image.

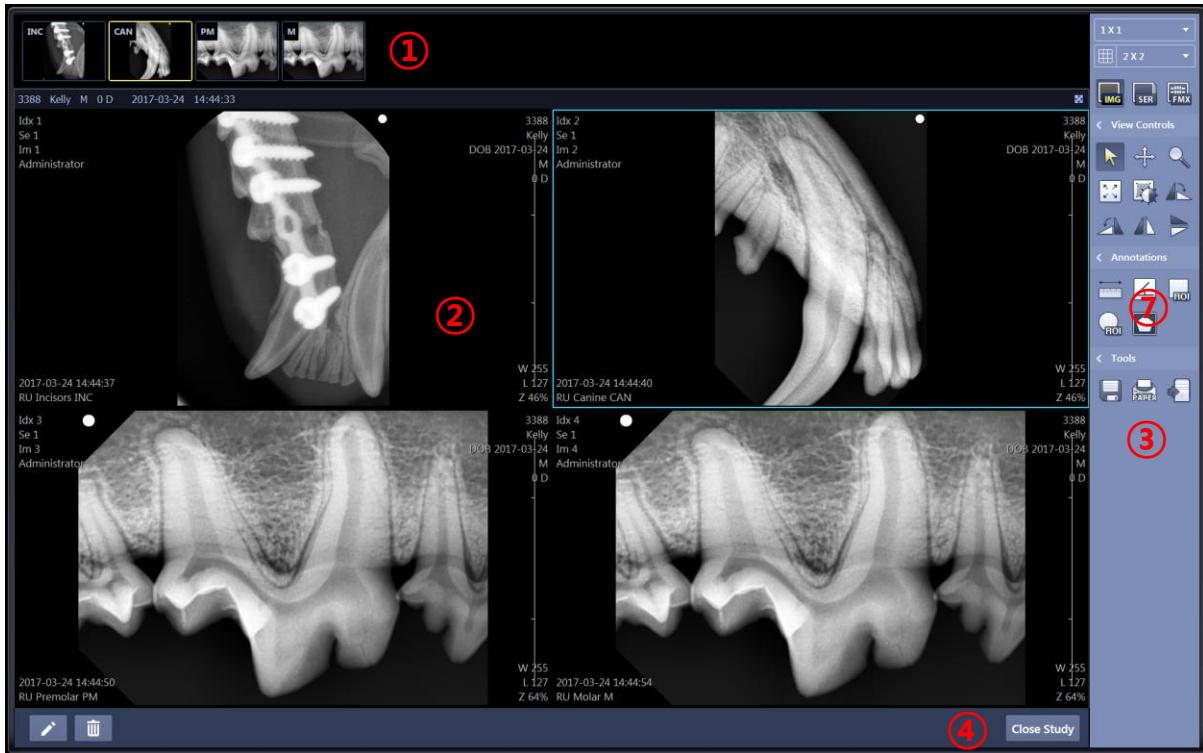
5.2.12 Open Study

- Open the selected study.



6. Viewer

6.1 Viewer Screen



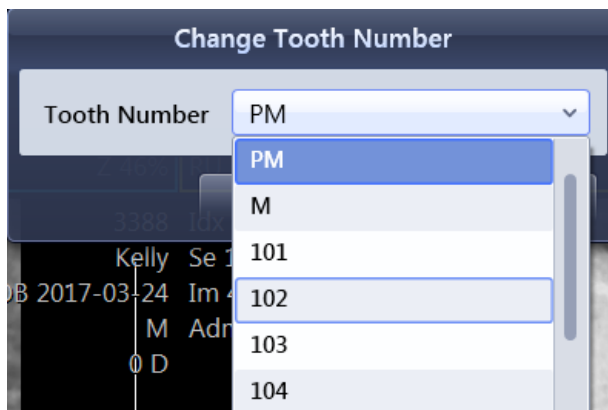
< Figure 24 Viewer Screen >

- ① Thumbnail View
- ② Main Screen
- ③ Side Tool Bar
- ④ Close this study

6.2 Thumbnail View

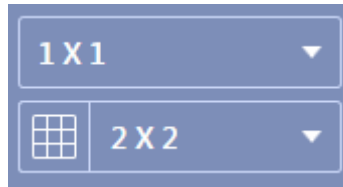


- After selecting the image, Click the right button and then Pop-up list is displayed.
 - Delete Image : Delete the selected image
 - Change Tooth Number : Change tooth number of this image to other number.



6.3 Side Tool Bar

6.3.1 Layout

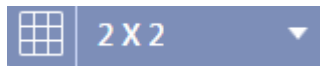


- Study Layout



- Set the study layout




- Image Layout

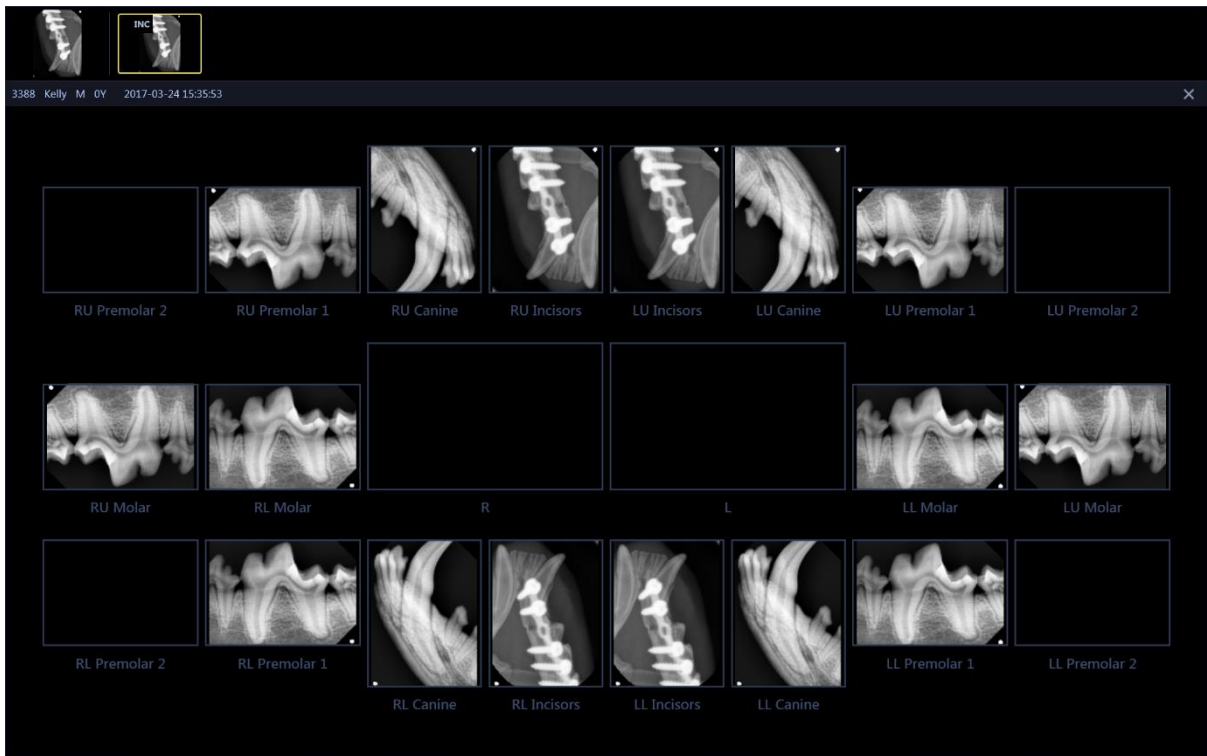


- Set the image layout

6.3.2 View Mode



- Image Mode 
 - Display all images in the study. (image 1, image 2, image 3, ...)
- Series Mode 
 - Display all images of one series at the one layout area.
 - Mouse wheel up/down to see previous image and next image on the series.
- Full Mouth X-ray 
 - Display the images to the Full Mouth X-ray mode.



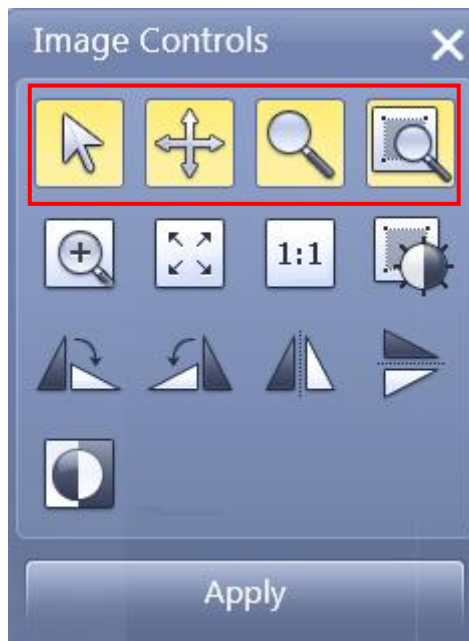
< Figure 25 Full Mouth X-ray Screen >

※ Tool Bar Edit

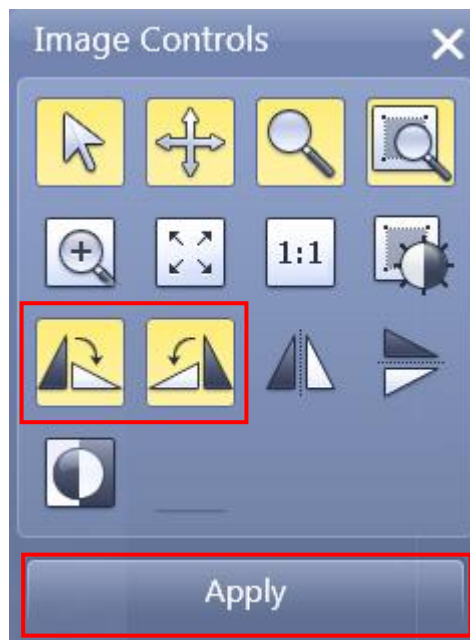
① Click the Edit button to the extension tool window.



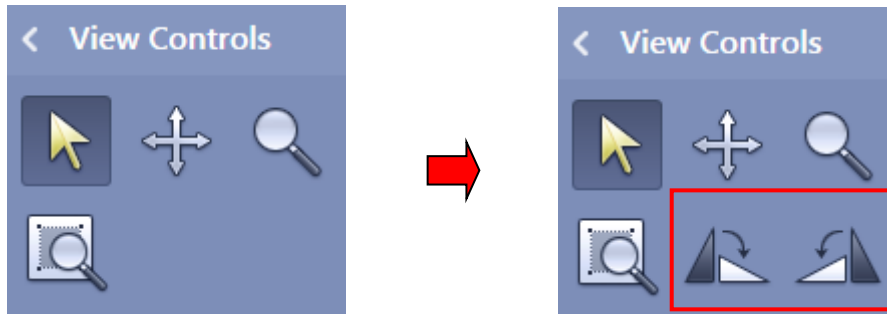
- ② Display the currently registered button in yellow.



- ③ Select the button you want to register and Click "Apply"







- ④ Register the selected button to the tool bar











6.3.3 Image Controls

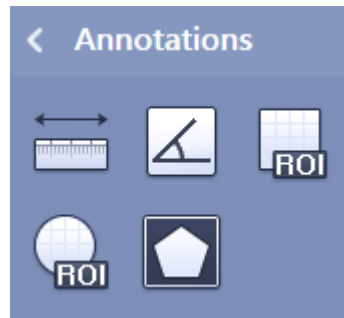







- Select 
 - Default Cursor
 - Select Functional button, Maker, Annotation, Cropping area etc.
- Panning 
 - Move the center of the selected image.
- Zoom 
 - Resize the image.
- ROI Zoom 
 - The selected ROI region is displayed as size of Main Screen.



- Magnify
 - Display the Magnify Glass.
 - Hold the "Shift" key and move the mouse to adjust magnification.
 - Hold the "Ctrl" key and move the mouse to adjust the size of the magnifying area.
- Auto Fit 
 - Resize an image according to the size of the Main Screen.
- CW 90° 
 - Rotate an image by 90 degrees clockwise.
- CCW 90° 
 - Rotate an image by 90 degrees counterclockwise.
- Horizontal Flip 
 - Flip an image horizontally.
- Vertical Flip 
 - Flip an image vertically.
 -
- ※ Extend Button : Extension Tool Bar
- Real Size 
 - Display images on the monitor pixel resolution.
- ROI Windowing 
 - The window value in ROI region is applied to whole screen.
- Invert 
 - Invert an image between black and white.

6.3.4 Annotations



- Length 
 - Measure the distance between two points.
- Angle 
 - Measure the angle.
- ROI – Rectangle 
 - Set the rectangular ROI.
- ROI – Ellipse 
 - Set the circular ROI.
- Arrow 
 - Enter the arrow.
- Marker –Text
 - Enter the user-specific text.
- Delete Annotation
 - The selected Annotation is deleted.

※ Extend Button : Extension Tool Bar

- Note



- Writing Comment.

- Overlay (Show & Hide)



- Select either Show or Hide for Main Screen Overlay Text.

- Annotation



- Select either Show or Hide for Main Screen Annotation.

- Delete All Annotation

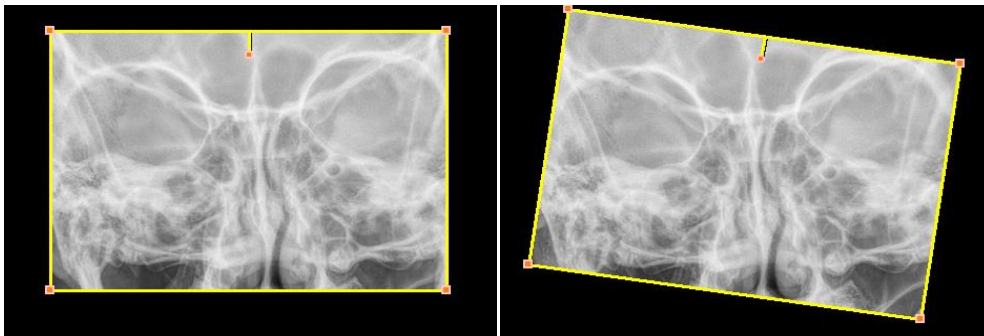


- All annotations of the image displayed on the screen are deleted.

- Rectal Shutter



- Using the rectal shutter.
- The shutter can be rotate by drag the point at the middle of top side



- Polygon Shutter

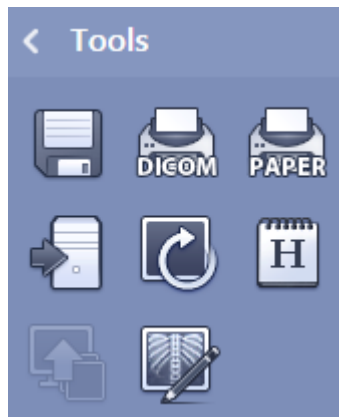







- Using the polygon shutter.
- If you double-click the mouse to complete the polygon shutter.

- Predefine Text

- The predefined text is entered.
- Go to System Menu > Setting > General > Display > Pre-Defined Text if you want to edit the predefined text.

6.3.5 Tools



- Save As 
 - Save the selected image under a different file name.
- Print 
 - Print the selected image to the DICOM Printer.
- Send 
 - Send the selected image or current study.
- Reset All 
 - The image is restored to state of primary processed image.
 - Rotation, Flip, Window Width, Window Center and All annotations reset.
- DICOM Header View 
 - Display the DICOM header information for the selected image.

※ Extend Button : Extension Tool Bar

- Paper Print



- Print the selected image.

- Non-DICOM Import



- Non-DICOM File Import.

- Image Comments

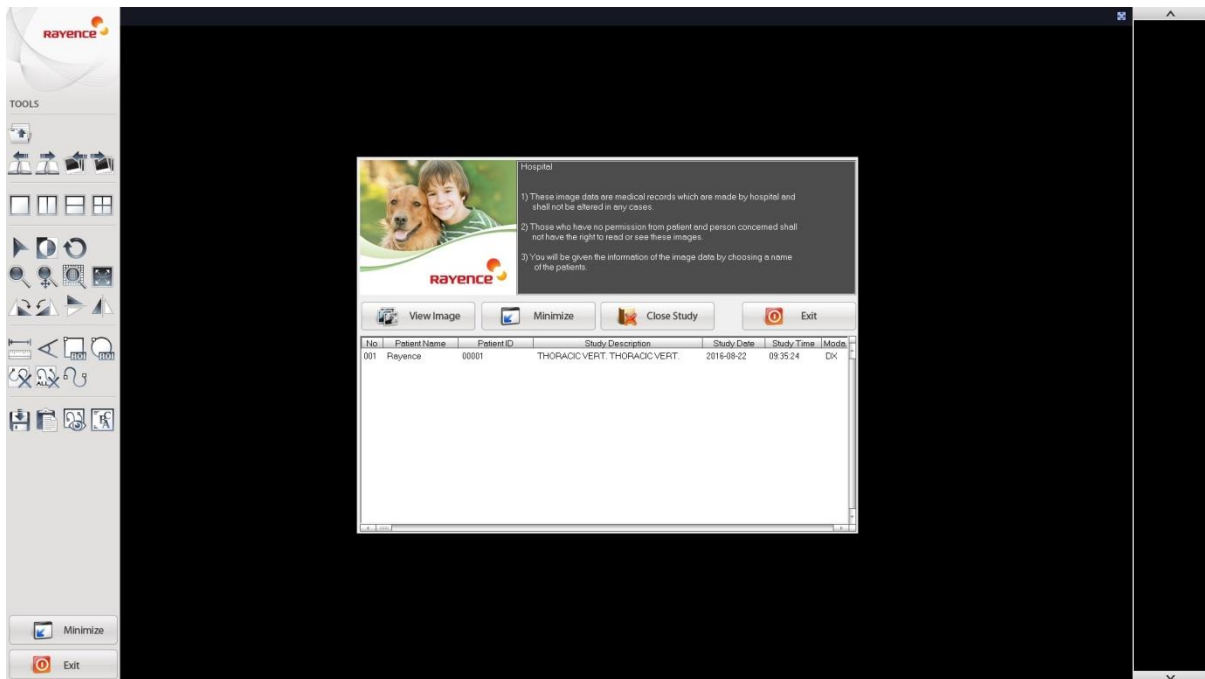


- Insert the Image Comments.

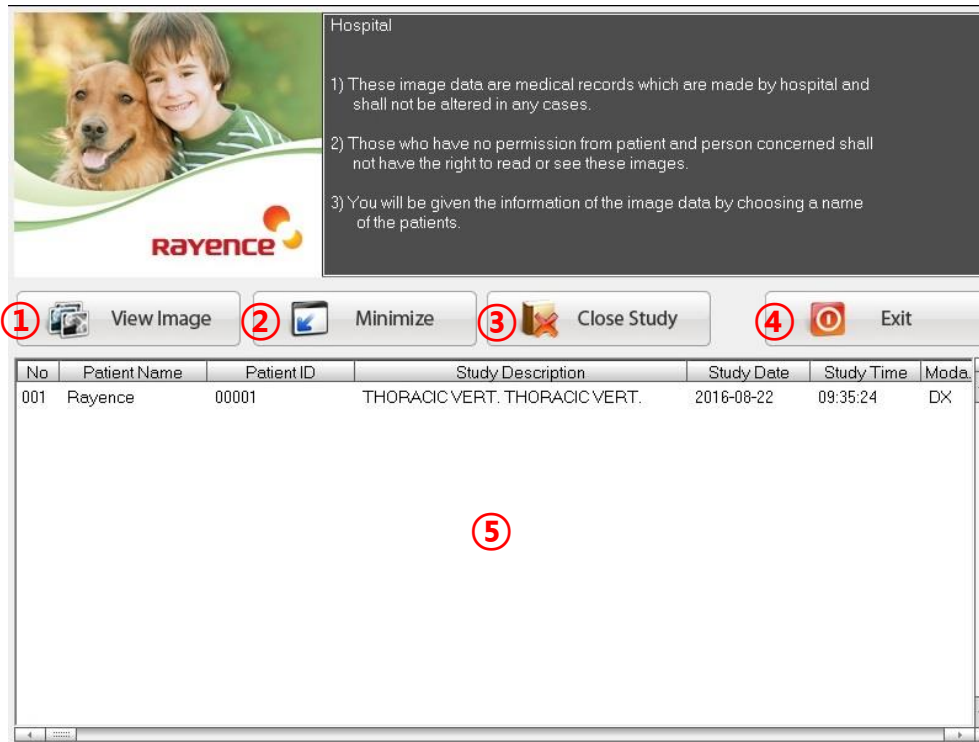
7. CD Viewer

- Automatically runs viewer when you insert the CD.

(If you do not automatically, click the CDViewer shortcut icon.)

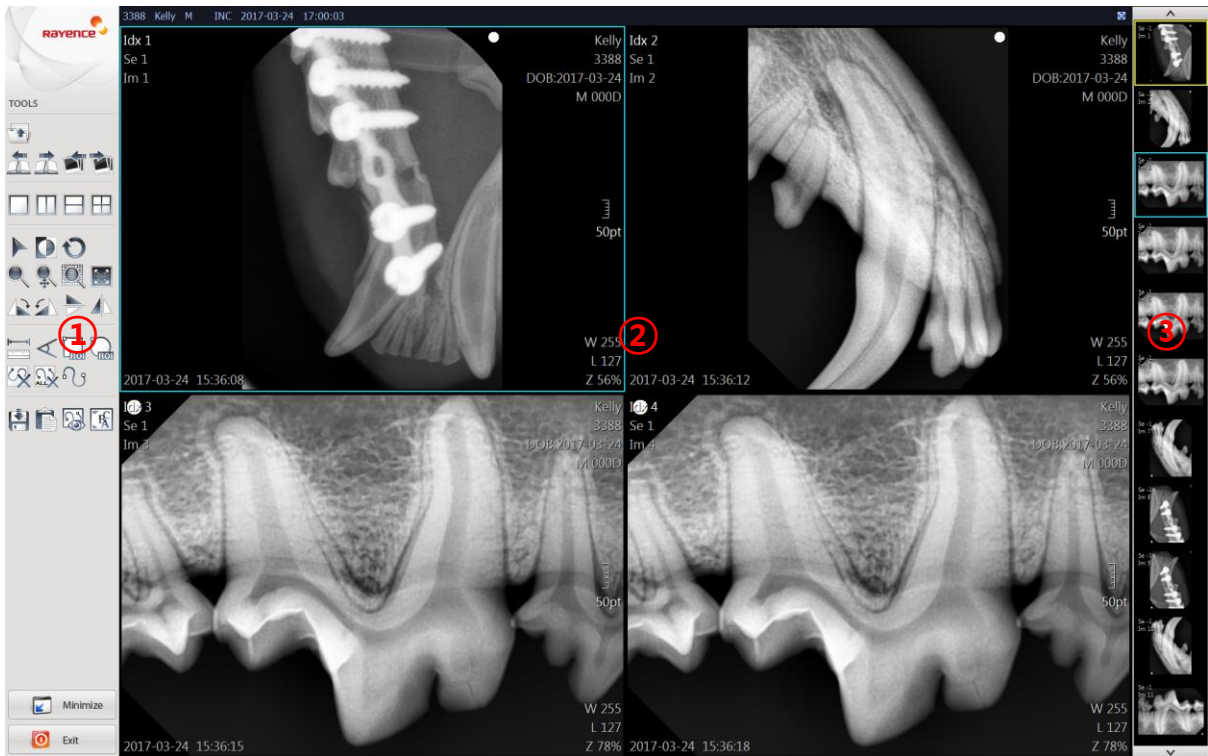


< Figure 26 27CD Viewer >



< Figure 287 CD Viewer >

- ① View Image :Image review.
- ② Minimize :Window minimized.
- ③ Close Study :Close the study list.
- ④ Exit :Exit the CD Viewer.
- ⑤ Study List :Displays studylist included on the CD.



< Figure 28 CD Viewer >

① Main Tool Bar

- Open Study List



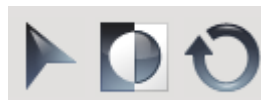
- Next / Previous Study Open



- Image Layout



- Select, Invert Image, Reset



- Zoom Image, Panning, Magnify, Fit



- Rotate / Flip Image

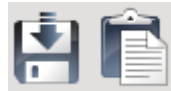


- Length, Angle, Rectangle / Circle ROI

- Delete Annotation, Delete All Annotation



- Export Image, Copy Clipboard



② Main Screen

③ Thumbnail List



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