VETSMART Veterinary X-Ray System™

User Manual

VETSMART

Table of Contents:

I. INTRODUCTION

1.0 Revision History

Revision	Date	Document Name (Reason for Change)
A	01/19/2020	Original document
B	5/11/2021	Simplify the acquire sections 20 and 21 and added cleaning and maintenance instructions sections 22 and 23.0. Change the definition of VD to Ventral Dorso which was unknown by the team previously.

2.0 References

Only the device configurations and connections described in this instruction manual (excluding instruments that have not been specifically approved by our company) meet the following standards.

Part No.	Description	Part No.	Description
GB/T191	2008 Packaging storage and transportation icon	GB/T9969	2008 Instruction Manual for Industrial Equipment
GB9706.1	2007 Medical electrical equipment Part 1: General requirements for safety	GB9706.3	2000 Medical electrical equipment Part 2: Requirements for the safety of high-voltage generators for diagnostic X-ray generating equipment
GB9706.12	1997 Medical electrical equipment Part 1-3: General requirements for safety General requirements for radiation protection of diagnostic X-ray equipment	GB/T10149	1988 Medical X-ray equipment terms and symbols
GB/T10151	2008 Technical requirements for high voltage cable plugs and sockets for medical diagnostic X-ray equipment	YY 0076	1992 classification of coatings for metal parts
YY 0505	2012 Medical electrical equipment-Part 1-2-General requirements for safety-Parallel standards Electromagnetic compatibility Requirements and tests	YY/T 0106	2008 General technical requirements for medical diagnostic X-ray machines
YY/T 0291	2016 Environmental requirements and test methods for medical X-ray equipment	YY/T 0316	2008 Application of medical device risk management

3.0 Intended Use

The VETSMART Veterinary X-Ray System™ is suitable for animal clinical medical diagnostics only. Do Not use on humans. It is not tested for medical use on humans. Intended use is for animals classified as pets, exotic species, and zoo animals up to 330 lbs.

4.0 Advisory Symbols

Indicates a hazardous situation that might result in serious injury or death if instructions are not followed properly.

Indicates a dangerous situation that might result in serious injury if the instructions are not followed properly.

Indicates a hazardous situation that may result in moderate or minor injury if instructions are not followed properly. It is also applicable to indicate a hazardous situation where damage is only limited to the material or related accessories.

It is not a warning solely. It provides the correct use and operating methods to avoid mishandling and malfunctioning of the equipment.

5.0 Definitions

Indicates protective grounding initiated

Warning: Electricity in use

Read manual prior to using or operating this equipment.

Important Information to follow. Read the safety sign to avoid incorrect operation.

Manufacturer

Production Date

Serial Number

Proper storage for Electrical Waste and Electronic Equipment

Non-Ionizing Radiation

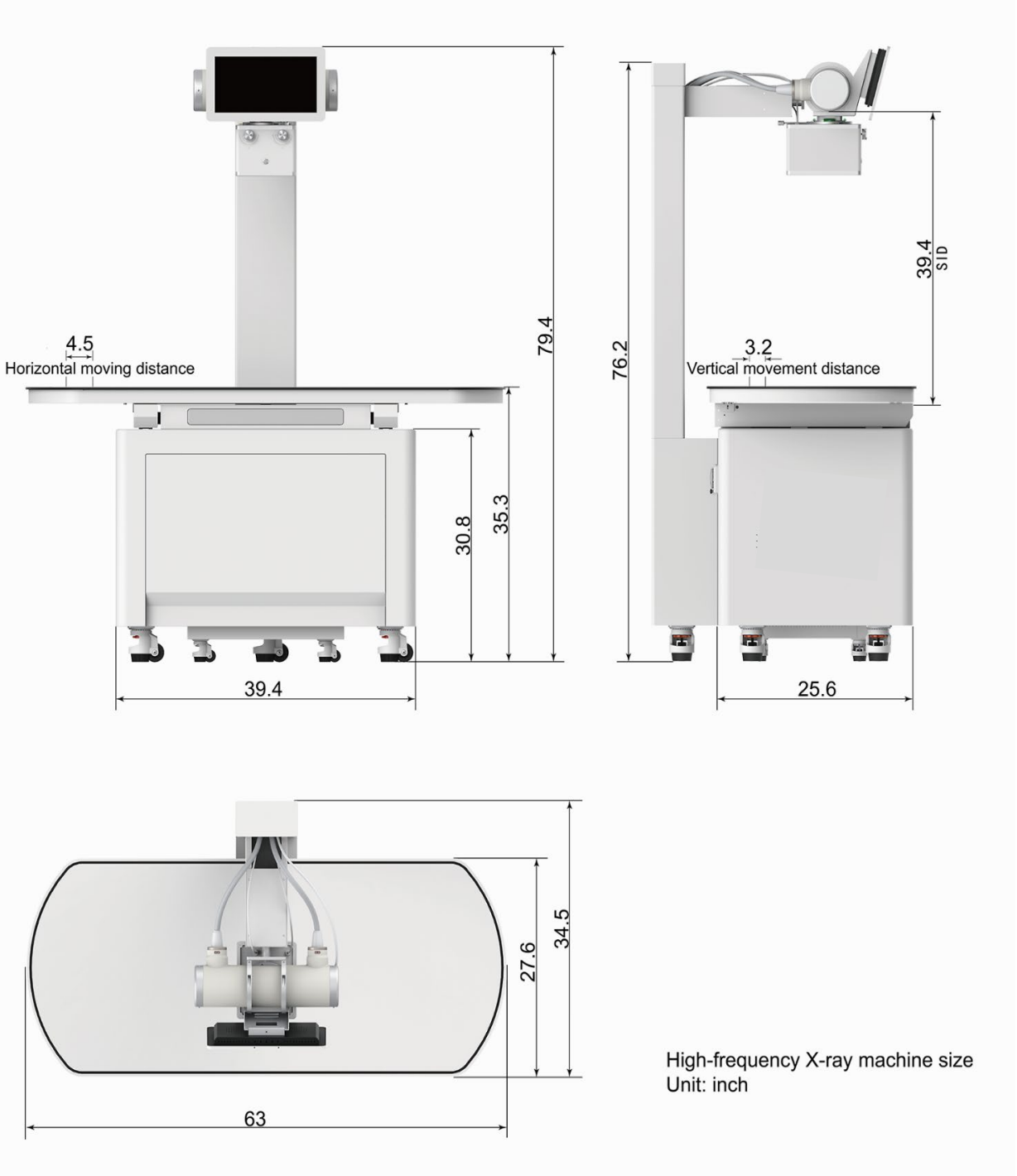
6.0 System Overview

1. System Description:

The VetSmart Veterinary X-Ray System™ uses animal specific features with advanced image processing to acquire an exam in under six seconds. The collimator is equipped with an innovative camera that can measure depth from the camera to the table when taking an image which allows the program to set the X-Ray technique automatically. The user-friendly interface comes with touch screen enabled technology and pre-set X-Ray exams that are customizable.

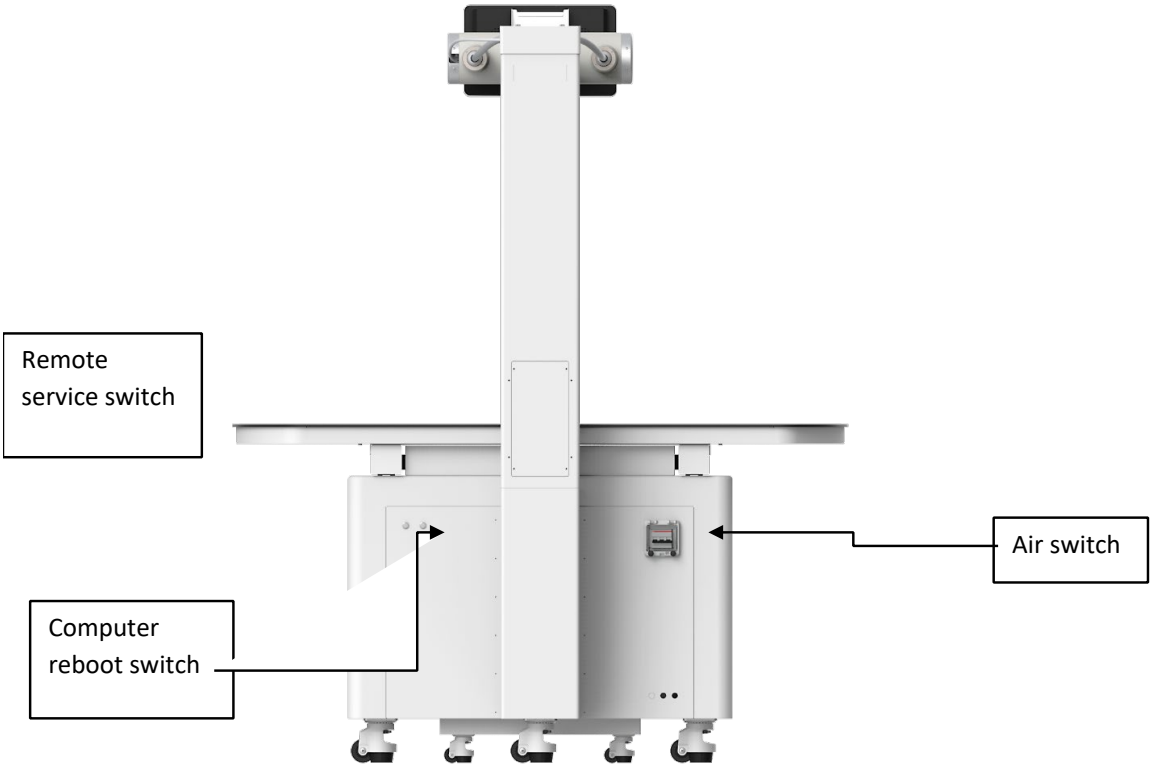
The VetSmart Veterinary X-Ray System™ table-top can be moved to align and position the pet easily under the crosshairs and to target the respective image for clinical diagnosis. The quick one-touch floor pedal allows for fast exposure trigger which can eliminate repeat images and over-exposure.

Component and Description	
SMART High Frequency Generator iMi-SHF32	
X-Ray Tube Assembly iMi-XRT-7239	
SMART Collimator iMi-SVC-120	
Veterinary X-Ray Table iMi-VXT	

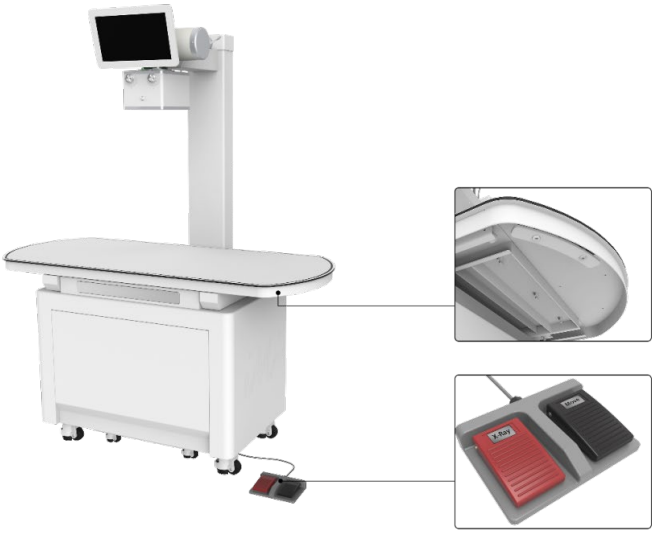


High-frequency X-ray machine size
Unit: inch

1. Switch descriptions



2. Table top movement and foot exposure switch



2. Main System Aspects

Veterinary X-Ray table
Maximum cassette size: 17” × 17”
Recommended flat panel detector size: 14” ×17”, 17” × 17”; thickness ≤ 24mm
Applicable grid size: 15” × 18” and 18” × 18”
Focal screen distance SID: 1000mm ± 15mm
Maximum table load bearing capacity ≤ 150kg (330 lbs.)
4-way float table-top
24 V electromagnets used for braking
Assembled with high quality minimum noise medical casters; base is equipped with High frequency generator mounting tray equipped with casters to mechanically integrate the complete system

SMART High Frequency Generator
Dimensions (L × W × H): 523 mm ×550 mm ×450 mm (20.6” × 21.7” × 17.8”)
Weight: 68 Kg (150 lbs.)
Power supply voltage/ Line voltage: 220 ± 22V/ 208 VAC- 5% -230 VAC + 10%
Power phase: Single phase (1 phase)- three wire system
Power frequency/ Line frequency: 50/60 Hz ± 1Hz
Working frequency: 80 kHz ~ 300 kHz
Maximum Output power: 32 kW
Tube Voltage: 40kV ~ 150 kV (continuous step-up voltage- 1 kV)
KV exposure accuracy: ± (5% + 2kV)
Tube current: 10mA to 400mA
mA exposure accuracy: ± (5% + 1mA) @ ≥10ms,
Current time product: 0.1 ~ 320mAs, stepwise adjustment

SMART Collimator
Weight: 5.2kg (11.5 lbs.)
dimensions (length × width × height): 262mm
× 214mm × 170mm (20.6” ×17.8” × 21.7”)
Supported X-ray tube maximum working volt- age: 150 kV
Maximum radiation field: SID (FFD) = 1000mm, not less than 430 mm × 430 mm
Minimum radiation field: 0 × 0 mm
Intrinsic filtration: ≤ 1.5 mm · Al / 75kVp
Additional filtration: 1 mm · Al and 2 mm · Al
Lead leaf opening control method: manual knob adjustment
Working power: AC24V / DC24V
Illumination (when SID = 1000mm): ≥100 lx
Light source delay: 26-30s
Distance from focal point to mounting plane: 58mm

X-Ray tube (Canon/Toshiba 7239)
Weight: 16kg (35 lbs.)
Focus: 2.0mm for large focus; 1.0mm for small focus
Tube voltage: 40 ~ 125kV;
Maximum tube current: 570mA for large focus, 340mA for small focus
Anode target surface target angle: 16 degrees, diameter: 74mm,
Anode thermal capacity: 100kJ (140KHU)

Working Conditions
Ambient temperature: + 10 ° C to + 40 ° C
Relative humidity: 30% to 75%
Atmospheric pressure: 70kPa to 106kPa

Transport and Storage Conditions
Ambient temperature: -20 ° C ~+ 55 ° C
Relative humidity: ≤90%
Atmospheric pressure: 50kPa to 106kPa

II. SAFETY

7.0 Safety Equipment

Use the following safety equipment until the installation is complete.

- **Lead Apron**
- **Lead Protective Screen**
- **Lead Glasses**
- **Lead Rubber Gloves**
- **Radiation Dosimeter**

8.0 Indications of Use

The VetSmart™ X-Ray System is suitable for animal clinical medical diagnostics only. **Do not use on Humans.** It is **not** intended for use on humans. It is intended for animals classifying into pets, exotic species, and zoo animals.

Images can be obtained with animals in the sitting, standing, or lying position. Animals may be physically abled, disabled, or immobilized.

"Normal Use" of this equipment is defined as the intended use plus the maintenance and service tasks.

Do not use this equipment for any purposes other than for which it is intended. Operations of the equipment for unintended purposes could lead to fatal or other serious injury.

Do not place animals weighing more than 330 lbs. on the table.

Use proper protective equipment while operating the equipment within the X-ray room.

9.0 Warnings

For continued safe use of this equipment, follow the instructions in this installation manual. Operators and service personnel must study this manual carefully. Instructions herein should be thoroughly read and understood before attempting to place the equipment in operation, especially the instructions concerning safety, regulations, dosage, and radiation protection.

Please study this manual and the referenced manuals for each system component to be fully aware of all the safety, installation, calibration, and operational requirements.

Take adequate steps to ensure protection from exposure to radiation. It is vitally important that everyone working with X-Ray radiation is properly in- formed and trained on its hazards. Wear Personal Protective Equipment (PPE) at all times.

Operators must have sufficient training to perform diagnostic imaging procedures with X-Ray devices. Training should be conducted by and governed by Federal and State laws and regulations.

Service personnel must have sufficient knowledge to completely perform the service tasks related to X-Ray devices and particularly to the equipment described in this manual. This knowledge is acquired through a variety of educational methods for technicians in accordance with local laws or regulations, including specific training on this equipment.

Use of Equipment Safety:

X-Ray equipment is potentially dangerous to both animals and operators. Protection measures must be strictly observed. If the equipment is not used properly, it may cause injury.

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment should be observed to verify it is working properly.

Use of accessories, transducers, and cables other than those specified or provided by the manufacturer of the equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

Portable RF communication equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part on the 2020 Veterinary X-Ray System including cables specified by the manufacturer. Or it could result in degradation of performance.

Failure to use this equipment in specific type of shielded location could result in degradation of performance of this equipment interference with other equipment, or interference with radio services.

This equipment should not be used with or near high frequency electrosurgery equipment.

Operating instructions and maintenance schedules must be strictly observed.

If the main power switch is turned on, dangerous voltages exist inside the high voltage cables.

Do not place any liquid on any part of the equipment. Make sure that water and other liquids shall not splash into the device and cause short circuit and corrosion of the equipment.

Keep the exposure interval of the high voltage generator more than 30 seconds. Frequent short time interval exposure can cause early system heating and shorten the life of the equipment.

After the prolonged period of idleness or inactivity of the equipment, it is necessary to check the operation and stable working condition of the equipment before use.

Do not uses or store in an environment related to dense moisture, heat sources, salt water or sulfur.

Do not use or store the device in an environment where the air pressure, temperature, or humidity exceeds the recommended range.

Keep well ventilated, avoid direct sunlight, and prevent erosion by dust and corrosive air. Avoid instability, vibration, and shock (including during transportation).

Do not use or store it in any place where there are any chemicals, flammable gases, or flammable and explosive materials.

Client Assumed Liabilities for Safety:

The equipment herein described is sold with the understanding that the manufacturer, its agents, and representatives are not liable for injury or damage that may result from overexposure of animals or operators or personnel to X-Ray radiation.

The manufacturer does not accept any responsibility for overexposure of animals or personnel to X-Ray radiation generated by this equipment which is a result of poor operating techniques or procedures.

It is the responsibility of the operator to ensure the safety of the animal while equipment is in operation, by visual observation, proper animal positioning, and use of the devices intended to prevent animal injury such as the floor pedal.

It is the responsibility of the purchaser/ customer to provide means for securing injured animals while using this equipment.

It is the responsibility of the operator to ensure that all exposure parameters are correct before performing an exam. The operator should verify that the parameter selection has not been modified unintentionally.

Make sure that the X-Ray tube is set in working position with the reference axis (X-Ray Beam) pointing to the reception detector.

The equipment described is sold with the understanding that the manufacturer, its agents, and representatives are not liable for injury due to improper use of equipment.

10.0 Responsibilities of Operators

The purchaser or customer is responsible for the Maintenance and proper use of all equipment. This responsibility includes the following:

- The manufacturer does not accept any responsibility for overexposure of animals or personnel to X-Ray radiation generated by this equipment which is a result of poor operating techniques or procedures.

- It is the responsibility of the operator to ensure the safety of the animal while equipment is in operation, by visual observation, proper animal positioning, and use of the devices intended to prevent animal injury such as the floor pedal.

- It is the responsibility of the purchaser/ customer to provide means for securing injured animals while using this equipment. Always use proper operating equipment for both operator and animal when using this machine.

- It is the responsibility of the operator to ensure that all exposure parameters are correct before performing an exam. The operator should verify that the parameter selection has not been modified unintentionally prior to each use. This precaution will avoid the risk of overexposure or the need for performing a new exam on the injured animal.

- **Shielding Protection:** To ensure your basic protection requirements, please refer to the relevant X-ray health protection standards provided by your radiation protection department.

- Make sure that the X-Ray tube is set in working position with the reference axis (X-Ray Beam) pointing to the reception detector.

11.0 Log-In

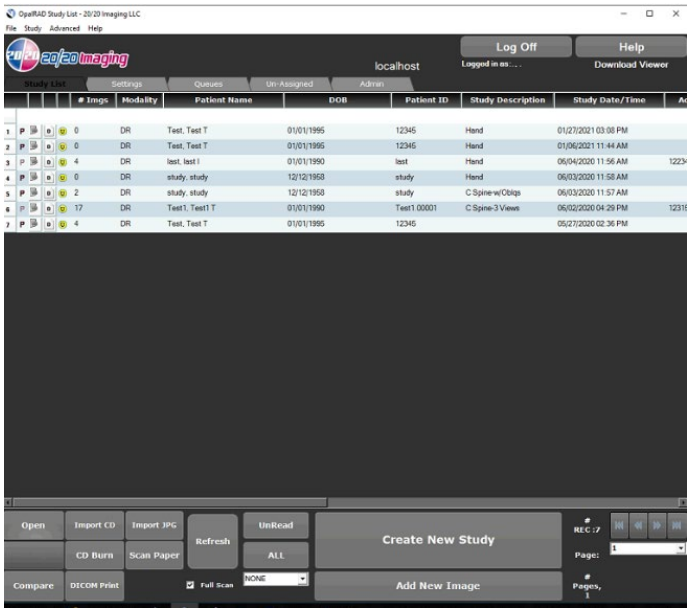
1. Select the 20/20 Imaging icon on the User Interface Screen (icon on desktop).

2. Double click to launch.
3. Type in the username and password.

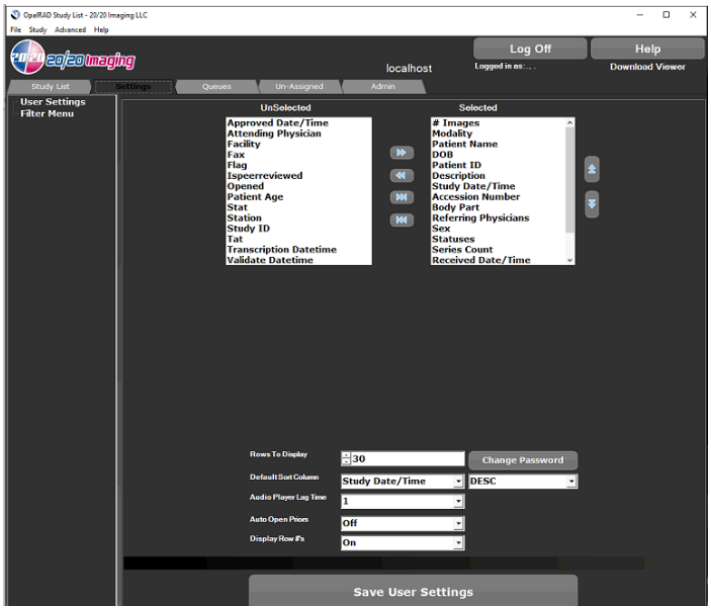
4. Select the "LOGIN" button.

12.0 Using the Study List

1. Tab Functions
   a. Study List Tab
      - Shows the Worklist of patients and status.

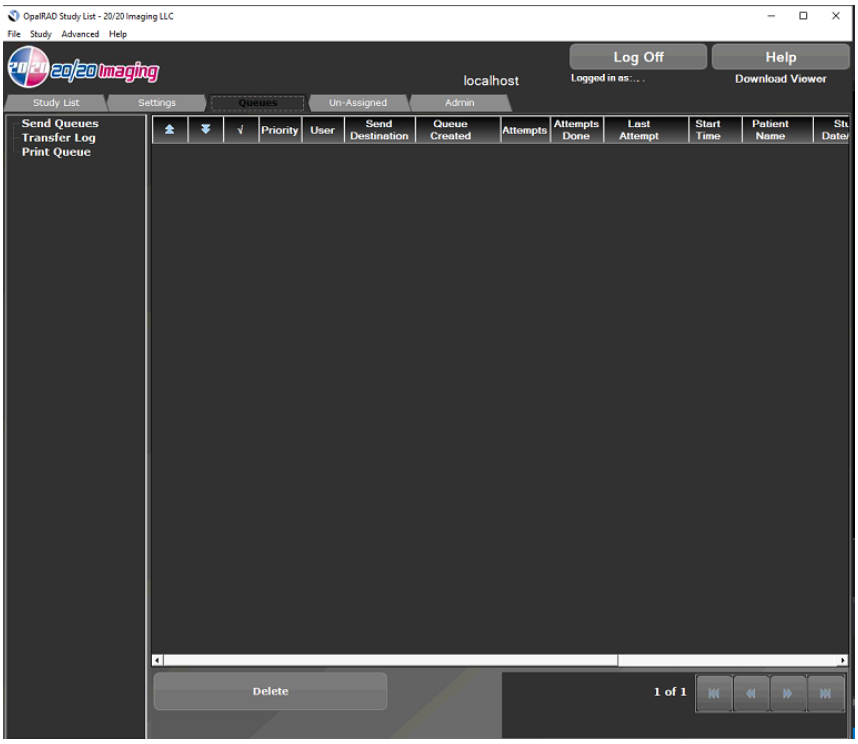


   b. Settings Tab
      - Select or unselect information to appear in the worklist and how to sort information ascending and descending. This tab also allows the admin to change the password.



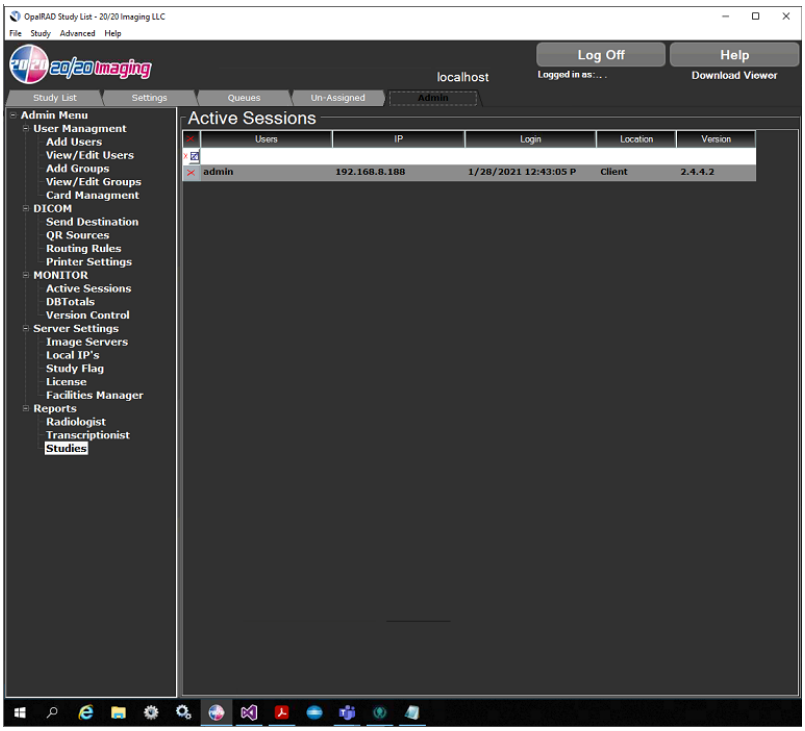
c. Queues Tab

- Lists the status of exams that are sent to outside sources.



d. Admin Tab

The purpose of this document is to define the functionality of each permission available in the Administrative Tab of Opal PACS-Web under the User Management category – Add/View/Edit/Delete Groups subcategory**.**



1. Select the ADMIN tab at the top of your worklist.
   NOTE: You must be assigned to the ADMIN group to access the ADMIN Tab of your study list.
2. Under *USER MANAGEMENT*
3. To CREATE a new group: Click Add Groups
4. To VIEW/EDIT/DELETE an existing group:
5. Click View/Edit Groups

   Opal is installed with 6 groups as follows. Each group has unique properties:

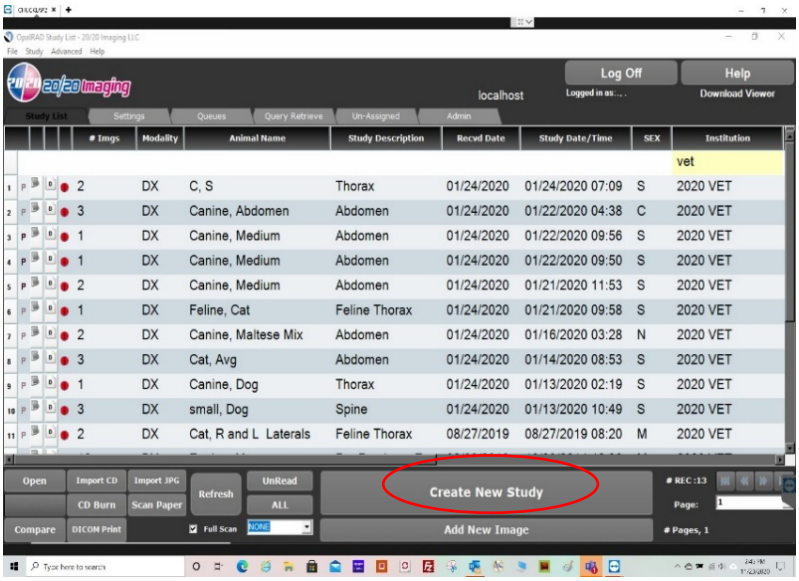
   a. ***ADMIN*** = Administrator
   b. ***RADIOLOGIST*** = Radiologist
   c. ***REFERRING PHYSICIAN*** = Referring Physician
   d. ***TECHNOLOGIST*** = Radiology Technologist
   e. ***TRANSCRIPTION*** = Transcriptionist
   f. ***VIZTEK*** = Viztek personnel

In the following table there is a list of all available permissions for all groups:

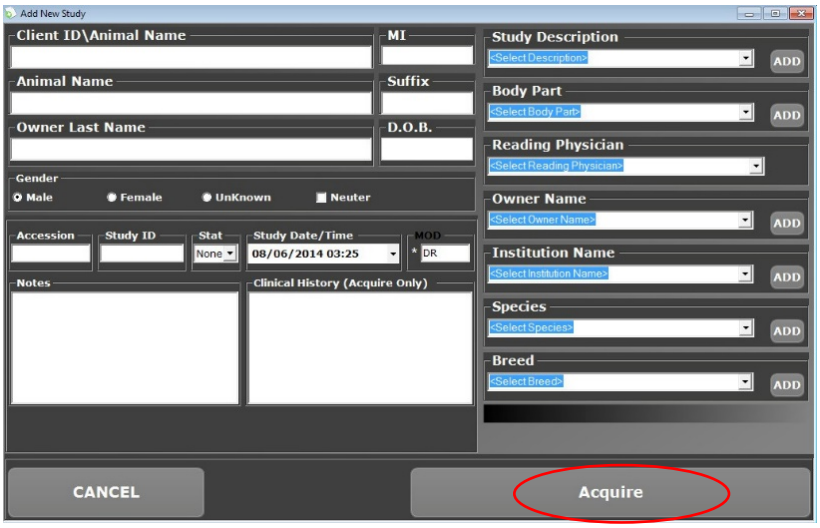
User Assignable Permissions	
ADD NOTES	Allows user to add notes using the worklist tool.
CD BURN	Allows user the ability to Burn CDs*Please see Viztek Quick Guide: How to Burn a CD for more information.
DELETE	Gives permission for user to delete a study (which places study in *DELETED* status) * This status is not permanent and can be changed back.
DICTATE	Allows user to dictate from the Opal Viewer into the Dictation/Transcription Module. *Dictation/Transcription Module license must be purchased and activated.
EDIT REPORTS	EDIT REPORT is used in conjunction with TRANSCRIBE. *Both EDIT REPORTS/TRANSCRIBE permission rights are given to *TRANSCRIPTIONIST* GROUP for them to be able to access the Transcription Window listen to the doctor's dictation and make changes to the report text. *Only the TRANSCRIBE permission right is given to REFERRING PHYSICIAN group as this allows them to access the Transcription window to listen to the doctor's dictation but NOT make any changes to the report text.
MARK APPROVED	Allows user to mark a study as "APPROVED"
MARK READ	Gives user the permission option to change the status of a study to READ by Right clicking an UNREAD study then selecting "READ" from the dropdown menu.
MARK STAT	Gives user the permission option to flag a study as "STAT" by: 1. Right clicking on the selected study. 2. Select "STAT" from the dropdown menu. 3. Choose level of STAT to assign.
MARK UNREAD	Gives user the permission option to change the status of an INCOMPLETE or READ study to UNREAD by Right clicking on the study and selecting "UNREAD" from the dropdown menu.
MODIFY	Gives user permission to utilize the Edit Study and Edit Patient options in Opal-Client. *This feature is currently only available in Opal-Client. Also allows user to save image changes orientation W/L and annotations upon closing out a study in the Opal Viewer.
PRINT	Allows user to print to a DICOM based printer by Right clicking a study and selecting "PRINT" from dropdown menu.
PURGE	Allows permission to purge a study that is in "DELETED" status. Once purged the study no longer appears on the worklist and is *not* retrievable.
SAVE	Allows user to save image changes W/L orientation and annotations upon closing out a study in the Opal Viewer.
SEND	Gives user permission to DICOMsend or Opalsend a study by Right clicking a study and selecting "SEND" from the dropdown menu. *Please note: A send destination must first be set up to perform this function
STUDY LOG	Gives user access to the LOG function within the drop-down menu by Right clicking a study within the worklist. Select LOG and a screen will pop up (shown right) that offers study information and a log indicating dates of status changes and which user performed the updates.
STUDY REVIEW	Gives user access to the PEER REVIEW function within the drop-down menu from Right clicking a study in the worklist. Gives user access to the PEER REVIEW function within the drop-down menu from Right clicking a study in the worklist. *Requires that the Peer Review module license be purchased and activated to utilize the Peer Review option.
TRANSCRIBE	Gives user the permission to access the transcription module to create templates and enter text in the transcription module.
VIEW	Allows user ability to open/view a study
VIEW NOTES	Allows user the ability to view any notes entered for a study
VIEW REPORTS	Gives user the permission option to view the approved study reports.

13.0 Create a New Study/Patient

2. Click the 'Create New Study' button near the bottom.



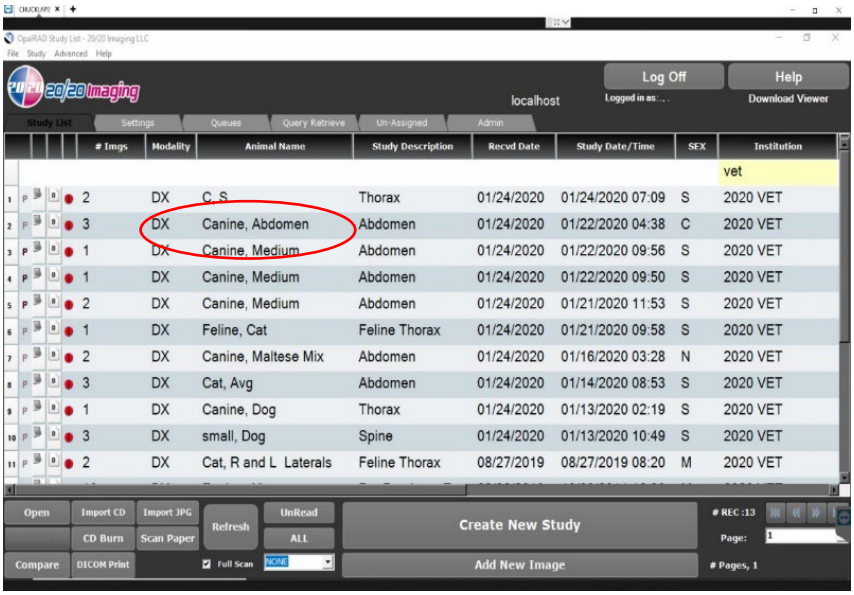
3. Enter patient demographics starting with Client ID/Animal Name, Owner Name, D.O.B., (right column fields-optional); then click 'Acquire'.



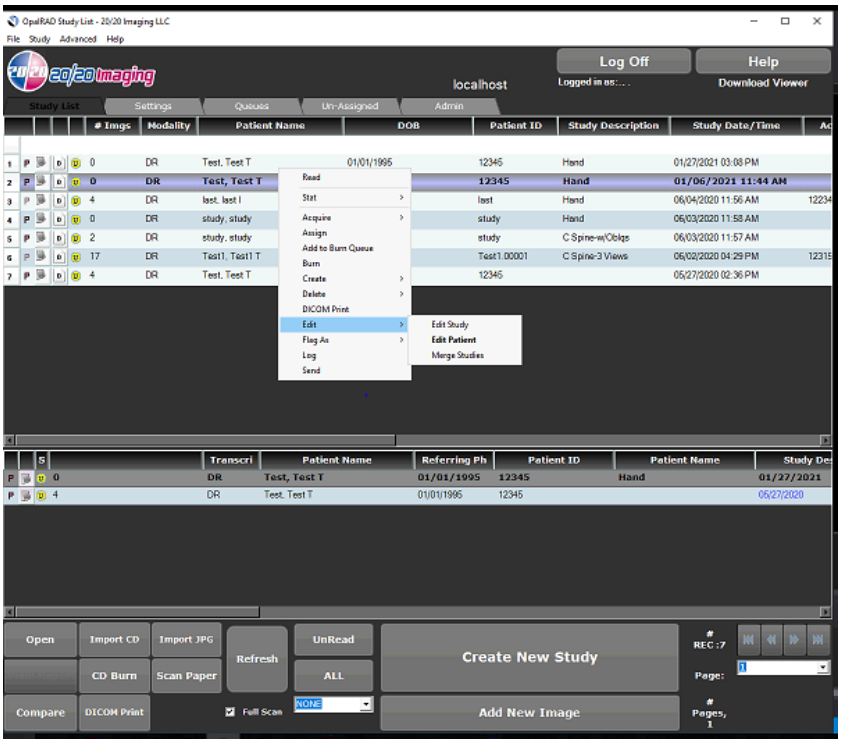
4. After you hit acquire, you may continue to step 20.0 **(Ctrl click on 20.0 to skip to section)** to start the exam.

14.0 Editing Patient Data

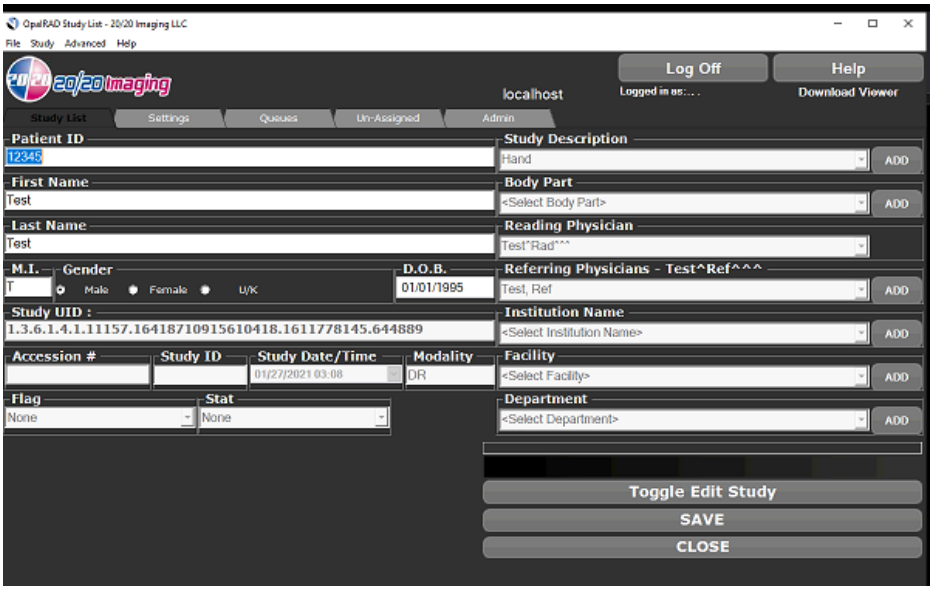
5. Right Click on the Patient's Name in the Study List to highlight the study.



6. Right Click to open the menu and select Edit and choose "Edit Patient" from the dropdown.



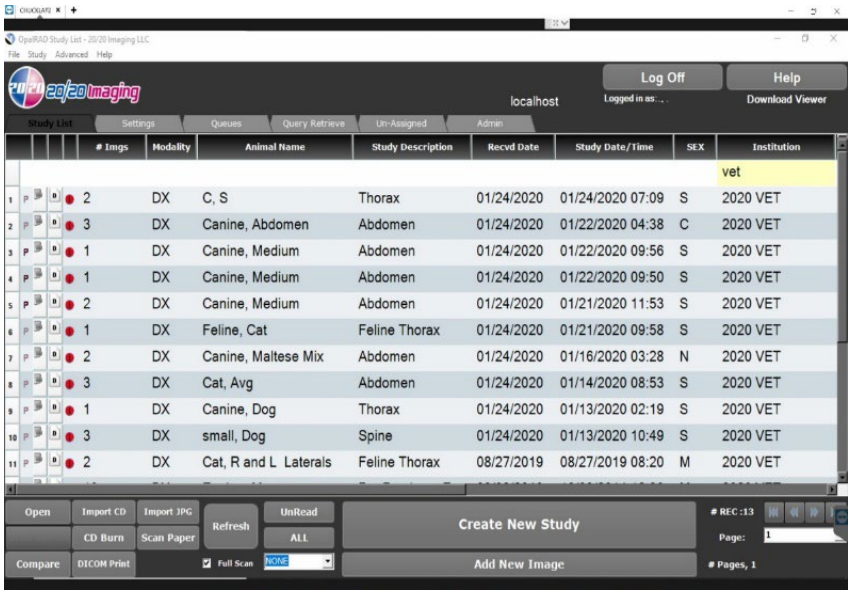
7. Edit the required field(s) and press the “save” button.



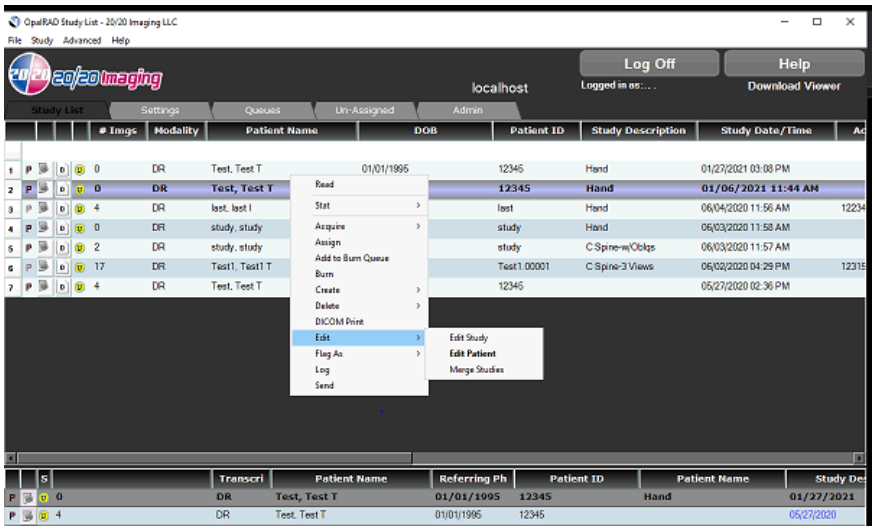
8. Select Close to complete the edit.

15.0 Editing Studies

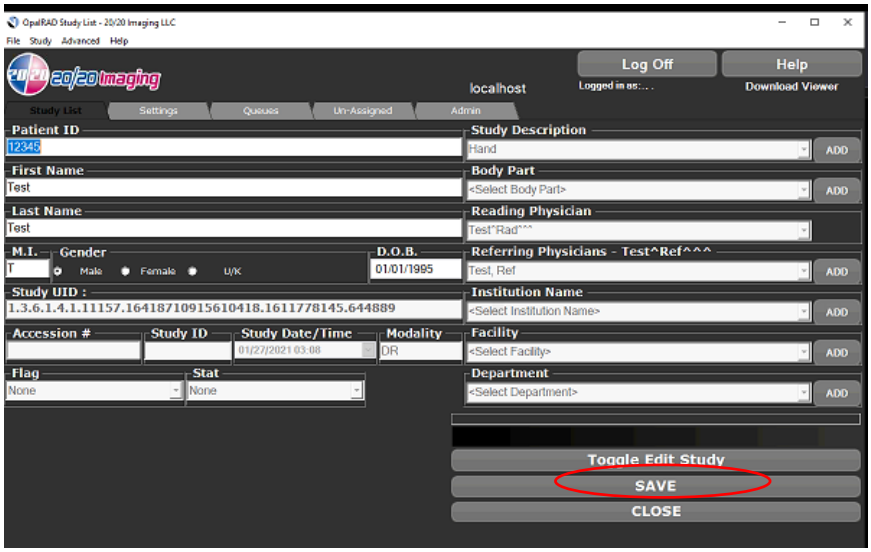
1. Right Click on the Patient's Name to highlight the study.



2. Right click and select "Edit" and choose "Edit Study" from the drop-down menu.



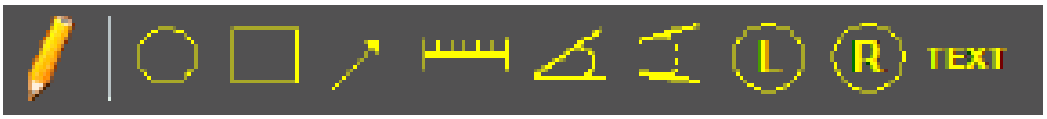
3. Edit the required field(s) and Right click Save.



4. Select Close to return to the Study List menu.

16.0 Annotations

1. Annotating consists of adding text and graphical objects to enhance or isolate regions of interest within an image. Annotations do not permanently alter the image, but are stored separately from the image data, and are held in a transparent layer atop the image.



2. **Line Tool**

   a. On the Annotations menu, select the Line tool.

Line tool button

   b. Left-Click on an area of the image to set the line's first endpoint.

   c. Move the mouse pointer to where the second endpoint will be (notice that a preview of the line is drawn while you move the mouse).

   d. Left-Click on an area of the image to set the line's second endpoint.

3. **Freehand**

   a. On the Annotations menu, select the Freehand tool.

Freehand Tool button

   b. Move the mouse over the image to where you would like to start drawing.

   c. Hold down the left mouse button and drag the mouse. As you move the mouse, the drawing will mimic your movements.

   d. Continue to draw as necessary.

   e. Release the left mouse button to end the freehand drawing.

4. **Ellipse**

   a. Left-Click on the Ellipse tool on the Annotations toolbar or select Ellipse from the Annotations menu.

Ellipse Tool Button

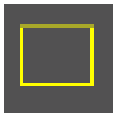
   b. Left-Click on an area of the image to start the ellipse.

   c. Move the mouse pointer and observe the ellipse expanding. Move the mouse such that the ellipse will enclose the ROI.

   d. Left-Click to set the ellipse in place.

5. **Rectangle/Box**

   a. Left-Click on the Rectangle tool on the Annotations toolbar or select Rectangle from the Annotations menu.



Box Button

   b. Left-Click on an area of the image to start the box.

   c. Move the mouse pointer and observe the box expanding.

   d. Left-Click again to set the box.

6. **Arrow**

   a. Left-Click on the Arrow tool on the Annotations toolbar or select Arrow from the Annotations menu.

Arrow Tool

   b. Left-Click the mouse on an area of the image to set the pointer end of the arrow.

   c. Move the mouse and observe the trailing end of the arrow following your movements. You can rotate the arrow around and shorten or lengthen the trailing end.

   d. Left-Click the mouse to set the other endpoint of the arrow.

7. **Measure**

   a. Left-Click on the Measure tool on the Annotations toolbar or select Measure from the Annotations menu.

Measure Tool Button

   b. Left-Click on the image to set the first end point of the ruler.

   c. Move the mouse to where the end point of the measurement will be and Left-Click to set the end point.

8. **Angle**

   a. Left-Click on the Angle tool on the Annotations toolbar or select Angle from the Annotations menu.

Angle Tool

b. Left-Click on the image to set the vertex (center point) of the angle.

c. Move the mouse to where the end point of the first vector should be and Left-Click to set it in place.

d. Move the mouse to where the end point of the second vector should be and Left-Click to set it in place.

e. The angle's measurement will then be displayed. Move your mouse to reposition the angle and Left-Click a final time to set it in place.

9. Cobb Angle

Cobb Angle button

a. Left-Click on the Cobb Angle tool on the Annotations toolbar or select Cobb Angle from the Annotations menu.

b. Left-Click to set the first point for the first line.

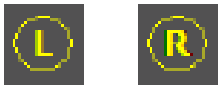
c. Left-Click to set the last point for the first line.

d. Left-Click to set the first point for the second line.

e. Left-Click to set the last point for the second line.

f. A measurement now appears showing the angle where these two lines meet. Left-Click to set the angle measurement in place.

10. Left and Right Marker



a. Select the Left Marker or Right Marker tool button on the Annotations toolbar or select the marker from the Annotations menu.

b. Left-Click on an area of the image to start the label.

c. Move the mouse pointer and observe the label expanding.

d. Left-Click again to set the label.

11. **Region of Interest (ROI)**

a. Left-Click on the ROI tool on the Annotations toolbar or select ROI from the Annotations menu.

b. Left-Click on an area of the image to start the ROI ellipse.

c. Move the mouse pointer and observe the ellipse expanding. Move the mouse such that the ellipse will enclose the area for study.

d. Left-Click to set the ROI ellipse in place.

12. **Text**

a. Left-Click on the Text tool on the Annotations toolbar or select Text from the Annotations menu.

b. Enter your text in the dialog box that appears.

c. To move your cursor to a new line, hold down **CTRL** and press **ENTER** (the text dialog box can support up to 3 lines of text).

d. When you are done typing, click the **OK** button or press **ENTER** to close the dialog box.

e. Left-Click on the area of your image where you wish the text to appear.

f. To edit the text annotation:

- Enter Annotation Edit Mode (see next section).
- Double-Click on the textbox and the text dialog box will appear.
- Change the text as necessary and click the **OK** button or press **ENTER** when finished.

13. **Magnify**

a. Left-Click on the Magnify tool on the Annotations toolbar or select Magnify from the Annotations menu.

b. Left-Click on an area of the image to start the box.

c. Move the mouse pointer and observe the box expanding.

d. Left-Click again to set the box.

14. Editing and Deleting Annotations

a. Enter edit mode:

- Left-Click on the Annotation Edit Mode tool on the toolbar or select Edit from the Annotations menu.

b. To Select an annotation:

- Enter Annotation Edit Mode (see above)
- Move the mouse over an annotation. Observe the annotation will light up when the mouse moves over it.
- Left-Click the annotation to select it. It will change colors and several little filled boxes (called "handles") will appear on the annotation.
- The annotation is now selected.

c. To edit a selected annotation:

- Select an annotation (see previous section).
- Move your mouse over the top of the selected annotation.
- If the cursor changes to an up arrow, you may Left-Click to grab the handle. Move your mouse to resize the annotation, and then release the button when you are done.
- If the cursor changes to a four-way arrow, you may Left-Click to grab the annotation. Move your mouse, and then release the button to drop the annotation in place.

d. To delete an annotation:

- Select the annotation (see previous section).
- Right-Click anywhere on the image and choose Delete Current Annotation from the context menu or press DELETE on your keyboard.

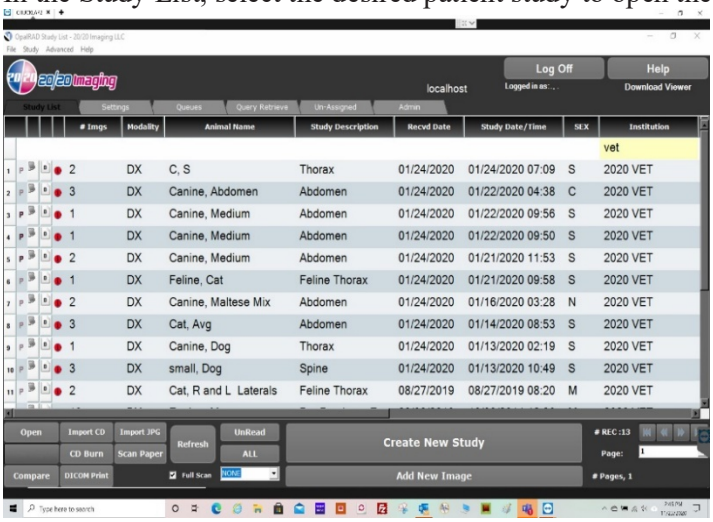
15. **Saving Annotations**

a. On the Annotations menu, select Save.

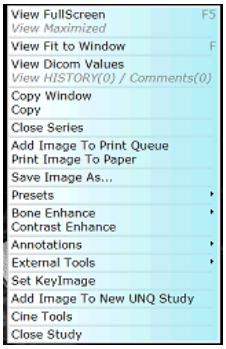
Note: If the auto-save feature is disabled, and you do not manually save your annotations, all your changes will be lost upon closing the study.

17.0 Printing an Image

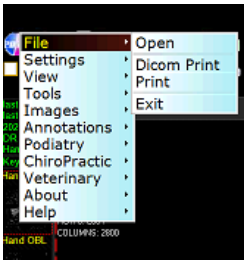
1. In the Study List, select the desired patient study to open the viewer.



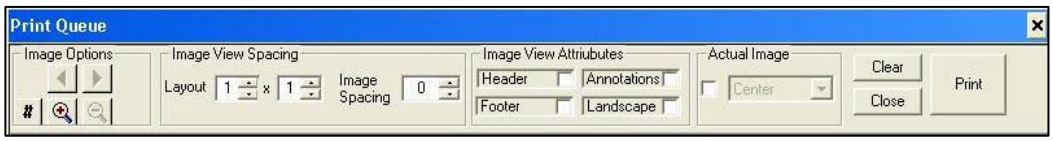
2. Select the image(s) in the study you want to print to paper, and right click your mouse on it. A menu will open. Select "Add Image to Print Queue." If you desire to add additional images, select those images.



3. Once all the images have been selected, right click on the 2020 Icon at the Upper left-hand corner of the screen, and select "File, Print".



4. A print screen will open with options for how you want the image(s) printed. Select the options as seen in the figure below.



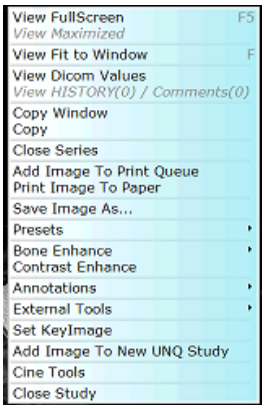
5. Once you have set all the options as desired, select the **"Print"** button to send the images to the printer.

18.0 Exporting Image as JPEG

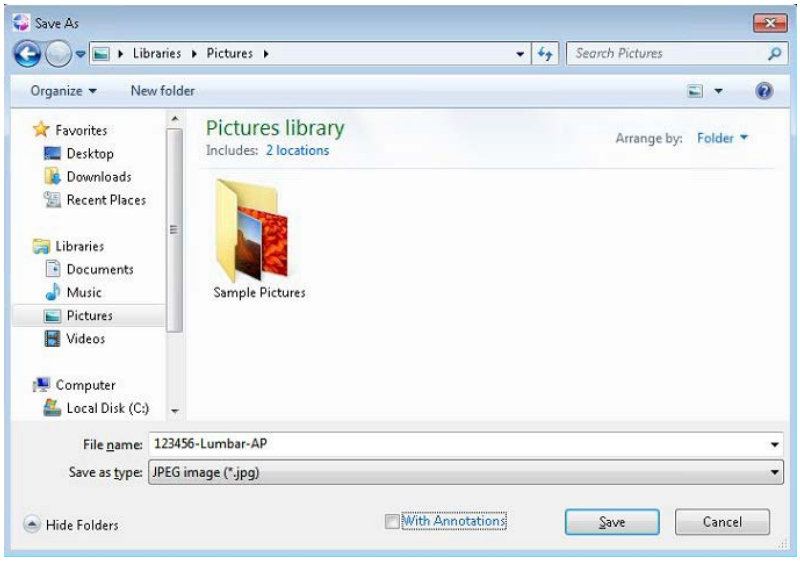
1. Open a Patient Study from the Study List

2. Navigate to the X-ray image you would like to export.

3. Using the mouse, right click anywhere on the x-ray image, pulling up an additional menu, select the 'Save Image As…' option.



4. Select a location in which you would like the image saved, type a file name under 'File Name'.

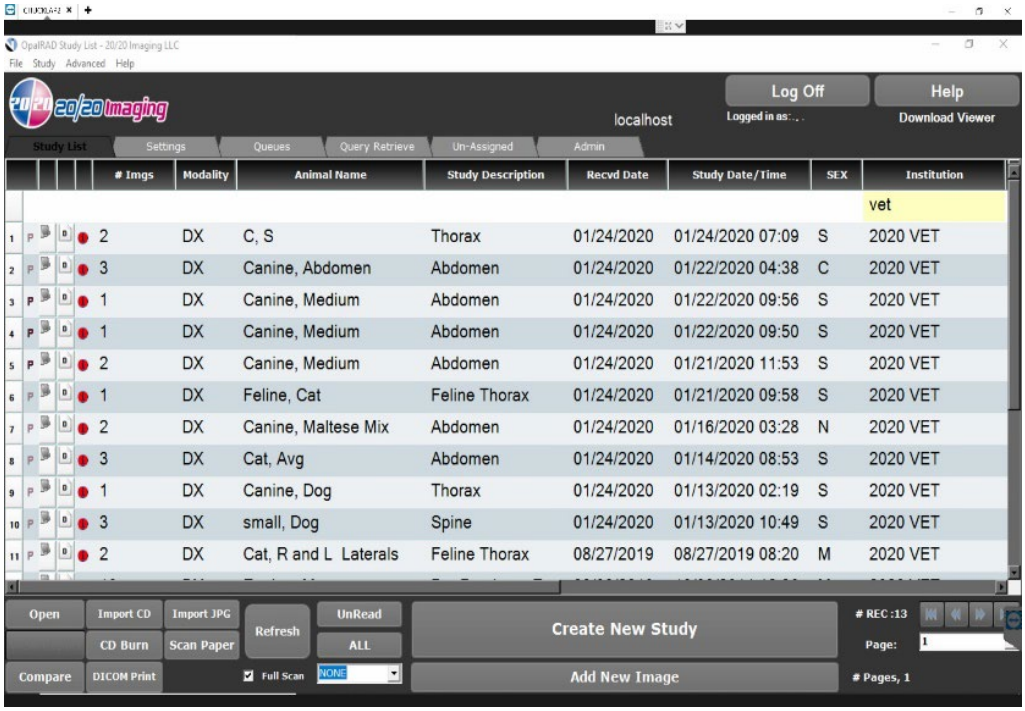


5. To include Annotation, select the option 'With Annotations' in the dialogue box.

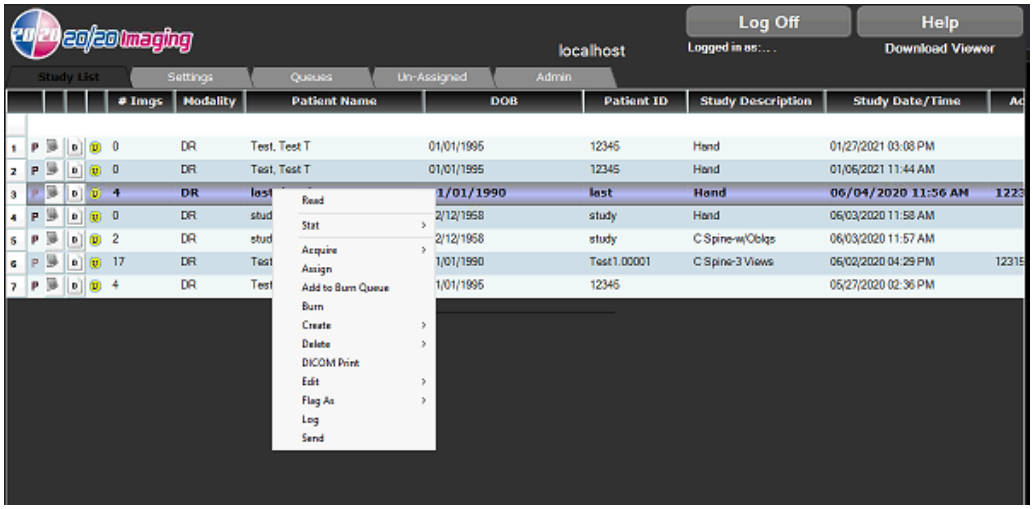
6. Click 'Save' when finished to save your image as a JPEG.

19.0 How to Burn a CD

1. Insert a blank, writeable CD into the CD drive of your workstation.
2. Select the study you wish to burn to the CD.



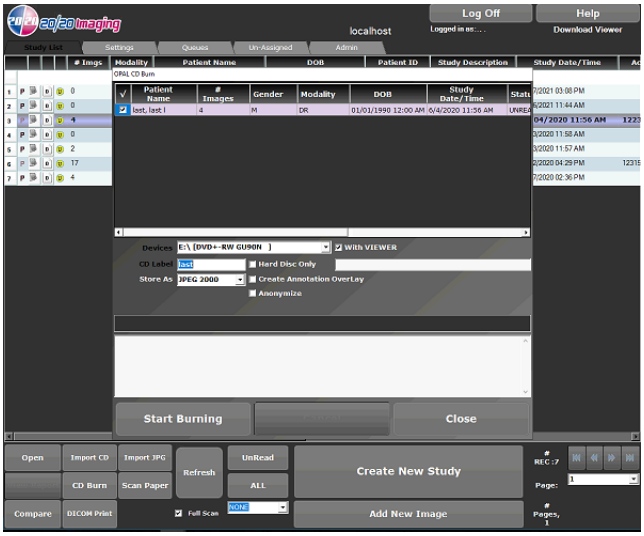
3. Right click to “Add to Burn Queue” to select one or more studies.



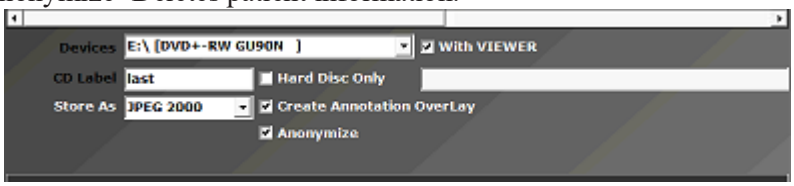
4. Click the CD Burn button.

5. Opal CD Burning window will display with studies selected.

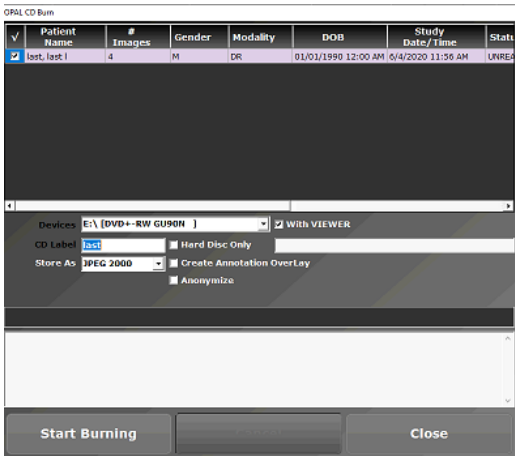
6. If patient has priors, they will also be listed as well. This will give the user the option to select all studies for a particular patient to burn on the same CD.



7. Select appropriate options:
   - Devices – Default Drive
   - Include Viewer – Selected by default; Burns the CD with the Opal Viewer Lite.exe
   - CD Label – Enter title for CD.
   - Store As – What compression format do you want to save the file?
     - Little Endian (Uncompressed) Raw, with no compression rate
     - JPEG Lossless Less compression rate
     - JPEG 2000 Lossless Most compression rate
     - Hard Disc Only- Select the folder where the study should be burned on the workstation.
   - Create Annotation Overlay- places the annotations on the CD.
   - Anonymize- Deletes patient information.

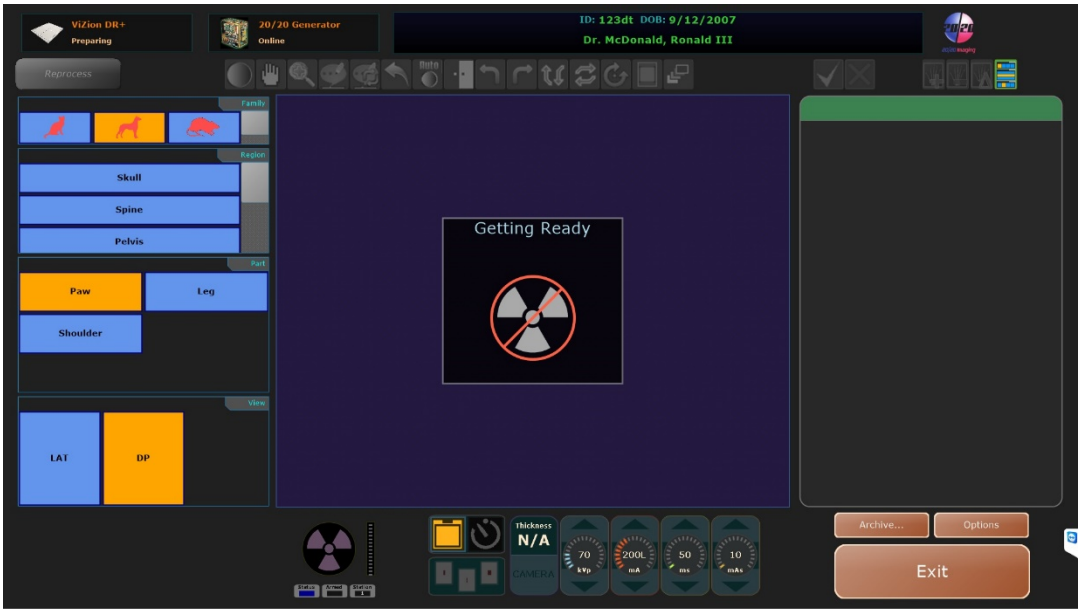


8. Left click on Start Burning to begin the CD burning process.

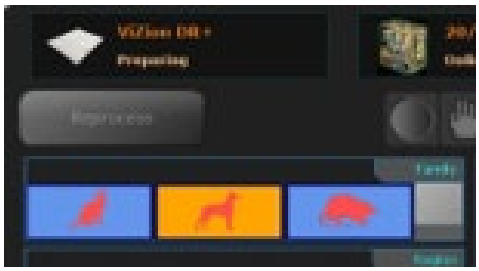


20.0 Acquiring Images

1. Select a patient and click Acquire to launch into the Universal Acquisition Interface (UAI).



2. Choose the pet type from the “Family” list. Example: cat, dog, small animal.

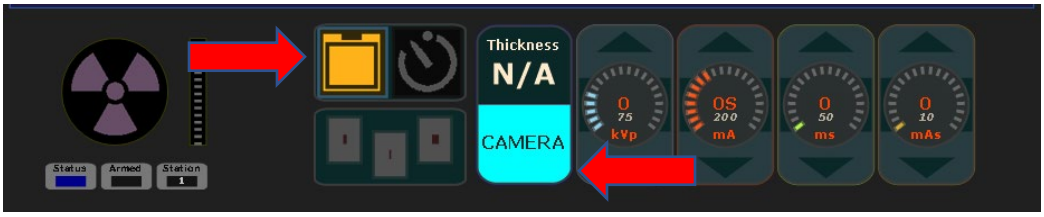


3. Choose the type of image from the “Region” list. Example: skull, spine, or pelvis.

4. Choose the part from the “Part” list as shown below.

5. Choose Lat or VD (Ventral Dorso) from the "View" list.

6. Select the camera icon on the screen and ensure the grid button is selected as seen below. The grid button will assist in determining the patient depth/thickness.



7. Ensure the depth for the camera is "0" prior to placing the patient on the table for the exam. If the depth is not "0" hit the zero-out icon [0] in the lower left-hand corner of the image display.
   - The camera should be calibrated daily or prior to using after infrequent use.

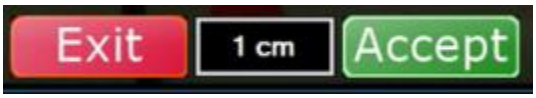
8. Position the patient and take the first image:
   a. Move the table by holding down the black pedal with your foot to unlock the table. The table will move up and down and left and right.

   b. Turn on the Collimator Light and align the image with the crosshairs.
   c. Release the pedal to lock the table in place.

   d. Check that the patient is correctly aligned in the camera view on the display screen, and the camera will determine the thickness for the image and preset the technique.

e. If needed, use the up and down arrows to manually adjust your technique (kVp, mA, ms, mAs).

f. Select the "Accept" button on the screen to accept the technique.



g. Push the red pedal all the way to floor to take the image.

h. Continue the procedure until you have acquired all the images needed for the exam.

21.0 Accepting and Rejecting Images

Before you can send images to a PACS destination, all images must be marked as either accepted or rejected. You can individually reject some or all images during an exam or collectively when you exit the exam.

NOTE: It is good practice to reject images as needed during the exam because when you exit the exam, you can select the option to “Accept All Unmarked” images.

If you do not accept or reject all images during the exam, you are prompted to accept or reject any remaining images that have a questionable status when you exit Acquire.

Accepting Individual Images

1. Select an image.
2. Click to accept the selected image.

Rejecting Individual Images

1. Select an image.
2. Click to reject the selected image.
3. Select a reason for rejecting the image.

Rejecting and Accepting Unmarked Images

During an exam, you can individually accept and reject images. If you did not approve all images, you are prompted with the option to accept all unmarked images or to reject all unmarked images that still have a questionable status when you exit Acquire.

You also have the option to suspend the exam to approve images later. However, you must accept or reject all images to send the exam to PACS.

After completing the exam procedures, click Exit to return to the Worklist view.

If there are any images that still have a questionable status you are prompted with the following options:

22.0 Cleaning:

1. Surfaces:
   Wipe down surfaces as needed with a dry cloth or disinfectant moistened cloth. Do not spray disinfectant directly on to the equipment surfaces or monitor.

2. Monitor Screen
   Use a dry electronic wipe or dry towel to wipe the monitor screen as needed.

3. Flat Panel Detector
   Konica Minolta Healthcare Americas, Inc. in conjunction with the manufacture has evaluated the following Disinfectant wipes and has determined that these products can be used for cleaning and disinfecting the iRay Digital flat panel detectors.

- 100% Alcohol
- PDI Sani-Cloth AF3
- PDI Sani-Cloth Bleach
- Diversey Oxivir TB

Customers can now use these commercially available wipes in addition to the cleaning solutions specified in the user manuals. The main advantages of these products are:

- Commercially available product
- Ready to use, no measuring or mixing required
- Tested by KM there is no expectation for accelerated degradation.

The following recommendations must be followed when sterilizing the iRay detectors when using Disinfectant wipes.

Instructions:
1. Wipe panel with a very thin layer of one of the above solutions.
2. Wait 30 seconds.
3. Wipe off any residue with a clean lint-free, soft cloth.

Caution:
- Do not leave moist towels on panel for more than 30 seconds.
- Do not apply sterilizing solution onto connectors, terminals or other electronic components when cleaning.
- Do not apply disinfectant directly to CR imaging plates.

23.0 Maintenance:

Always check for frayed wires and leaks.
*Talk to the dealer about routine maintenance. They will discuss and set up routine maintenance as needed.

VETSMART

20/20 Imaging
a division of Konica Minolta Healthcare

Prepared By: 20/20 Imaging
A Division of Konica Minolta Healthcare
2217 US Highway 70 E
Garner, NC 27529