Operating iCAT Vision: Open the program and click on the Patient Name in the patient database list at the top left corner of the window.

Caution: DO NOT do anything in a patient study until the status bar located at the bottom of the window indicates that the patient data is fully loaded. Wait until looks like

The Preview Screen:

Double click on this axial view to enter the TMJ Screen
Double click on this sagittal view to enter the ortho screen
Double click on this coronal view to enter the MPR screen
Click on the red or green line to switch between the maxilla and mandible
Double click on this panoramic view to enter the implant screen

Hiding the Patient List:
The Patient List can be hidden by clicking Tools / Hide Patient List. To Show the Patient List again, click Tools / Show Patient List.

Cursor tools:
All views have this window level cursor tool. When your cursor looks like this, click and drag up, down, left, and right to adjust brightness and contrast

In the Planning Screens, if you move the cursor to the bottom left of an image, the pan cursor tool will appear. Click and drag to move the image up, down, left or right within its window.

In the Planning Screens, if you move the cursor to the bottom right of an image, The zoom cursor tool will appear. Click and drag up and down to zoom in and out.

Back Tool: to exit out of a planning screen back to the Main Display, move the cursor to the very top left corner of the screen until you see the “X” and click. Or click on the Level Up button on the Main Menu bar.
**Slice Controls:** The following slice control bar is found in various views and positions throughout the program:

- Left click here to select MIP or radiograph viewing
- Left click here and drag left or right to increase and decrease slice thickness and spacing
- Left click here and drag left or right to move across image

**Measurements:**
- To make a hounsfield unit (Bone Density) measurement, Right click on a view and select “HU Statistics.” Click, drag, and click to define an area. Statistics will appear in upper right corner. A maximum of 4 HU stats can be taken at a time in a normal view and 2 in a cross section view.
- To make a linear measurement, right click on a view and select “Distance”. Point, Click, drag, and release to draw a line. A measurement in mm will appear in upper left corner. A maximum of 9 distance measurements can be taken at a time in a normal view and 4 in a cross section view.
- Right click and select “HU Stats” or “Distance” again to turn the tool off
- Right click on the actual measurement statistic to remove, inactivate, or activate them.
Filtering Defaults:
There are already filters applied to all images. The filters are defaulted as seen below.
1. Preview Screen: Select “Hard” for all images.
2. Implant Screen: Select “Hard” for all images.
3. TMJ Screen: Select “Hard” for first 3 and “Normal” for Condyle Ortho Images.
4. MPR Screen: Select “Normal” for all images.

These defaults can always be changed by Clicking Tools / Filter Settings / Set Filters. They can also be changed “on the fly” by right clicking on an individual image, selecting Filter Setting / Set Filter and clicking on the desired option (Smooth, Normal, Hard, Sharp, Very Sharp). They can be changed back to the default by clicking Tools / Filter Settings / Reset to Default.

Suggestions for adjusting Panoramic Map:
Start adjusting the Panoramic map from the Preview Screen. It is recommended to center the anterior point at midline and then move the next two points up closer to the anterior point on each side. Place them a few teeth away from anterior center. Then move the next two points closer to the molars. See sample below.
**Implant Planning Screen:** (enter by double clicking on the Pan from the Preview window).

- **Turn orange hash marks on and off by right clicking on pan or axial view and selecting “Turn hash marks on/off” from menu.**

- **Double click on an individual cross section to zoom in. Double click on it again to reduce to original size.**

- **Labels:** The following labels on the images help clarify the orientation of the anatomy:
  - R: Right Side (Axial, Pan)
  - P: Posterior (Axial)
  - b: buccal (cross-sections)

- **Pop Up Menu:** Right click on the cross section views to display the Pop Up menu to select measurements and other features. “Display Formats” gives 2 other options for viewing cross sections. The default is 5 x 2. The other options are 7 x 3 and 3 x 1. Nerve Canal detection is not yet functioning.
  - All views have W/L, Zoom and Pan tools available.

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**Vertical Tool Bar:**
Click and drag this center tool up or down to adjust height of anatomy viewed in the cross sections and axial.

**Horizontal Tool Bar:**
Click and drag this center tool left to right to move the slice location of the cross sections. The center slice is outlined in Blue.

**Diagonal Tool Bar:**
Click and drag this tool to adjust the slice thickness of the Pan view.

**Click the bottom tool to change the Pan view from Radiographic to MIP.**

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**Slice Location numbers start at “0” for center of anatomy or midline. (The “0” slice will be outlined in Red). All slices to the patient’s Right will be negative #’s. All slices to the patient’s Left will be positive #’s. (Midline is determined by axial map).**

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**Measurements and All views have:**

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The TMJ Planning Screen:
(enter by double clicking on the Axial view from the Preview Screen)

- **Hint:** When entering the TMJ screen, you may have to first drag the axial (SMV) view down in the window to see the condyles. Move the cursor to the lower left of the SMV (axial) view until you see the “P” for pan tool. Then point, click and drag the image down.
- All views in TMJ Screen have W/L, Zoom and Pan tools available (not the Sagittal view).

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Click and drag this center tool to scroll up and down sagittal view to locate condyles in the axial view so you can see condyles properly for mapping.

Creating Lateral Slices:
Click and drag center blue circles to move condyle map (do this for each condyle). Click and drag yellow and blue end circles to adjust the angle of each condylar map.
Green markings indicate anterior to condyle. Red marking indicate posterior of condyle.

Creating Coronal Slices:
Click red circle on either end map to create Coronal views.

Horizontal Tool Bar:
Click and drag this center tool to left to right to move slice location of cross section views. Click and drag the tool to the right to change slice thickness of cross section views.
**MPR Screen:** (enter by double clicking on the Coronal View in the Preview Screen).

The MPR Screen allows you to scroll through the axial, sagittal, and coronal slices. W/L, Zoom and Pan tools are available in all views.

**Horizontal & Vertical Tool Bars:**
Click and drag center tools from any view to move slice location. The views are colored coded to correlate which view will adjust.

Click and drag the tool to the right for horizontal and bottom for vertical bars to adjust slice thickness of the corresponding color coded view.

Right-click in any of the 3 views and select “Explore” for additional cut planes.

**Ortho Screen:** (enter by double clicking on Sagittal view from Preview screen).

The Ortho screen displays the Lateral Cephs in Radiographic and MIP mode as well as a Coronal View and a Mid Sagittal Slice (15mm thick).

W/L, Zoom and Pan tools are available in all views.
**Rotating the Volume:**
The data can be rotated from the Preview window in any of the bottom 3 views (Sagittal, Coronal, Axial). To do this, hover the mouse in the lower Right hand corner of any of these 3 views. The cursor will change to a half moon shape. When the cursor looks like this, point, click and drag to rotate the image. A grid will appear over the image to give a visual guide for the new rotation. When the rotation is at the new desired position, release the mouse.

To complete the rotation of the entire data set, you must now Right click to access the pop up menu and select the item called “Rotate Volume Now”. This will re-calculate the new rotation in all views. If you wanted to return to the original volume, Right click to access the pop up menu and select the item “Reset Volume Rotations”.

**Removing Circumference Artifact:**
If you have a dataset that has the Circumference artifact (seen visually in the Preview Screen as horizontal lines in the Coronal and Sagittal images and a white partial circle around the axial image), then this can be removed from the dataset by Right clicking in the Preview Screen and selecting “Remove Stray Voxels from Circumference”. The data will re-calculate without that artifact.

**Saving and Loading Workups:**
The plans that you created can be saved so that when you re-enter the case, they can be retrieved. If you made or changed a plan and attempt to exit iCAT Vision or switch patients, the program will prompt you and ask if you want to save your workup. To save the workup, click “yes.” A window will appear for you to “Create new workup”. Select this and enter a new title for your workup or choose an existing workup name (if one) from the list to overwrite it. Once the workup is named, click OK to save.

Or, before exiting or switching patients, from the Preview Screen, Right click to access the pop up menu and select “Save this Workup”. Then proceed as instructed above.
To load a workup, click on a patient name, and a “Select a workup” window will appear. Select an existing workup to load it. If you want to select another workup (if you have multiple workups), from the Preview Screen, right click to access the pop up menu and select “Load New Workup”. Then select the desired workup from the list.

Creating Export CDs:

**Note:** Make sure to first Save any Workups before attempting to burn a CD.

- First insert a CD or CDRW into your CD drive.
- Then click on Tools / Create Export CD. The CD burner window will open.

- If you have multiple CD drives, select the desired hardware from the drop down list. If you are using a CD-RW and need to erase it, you can choose, Erase CD-RW. Or proceed below.
- Click on the desired patient to select for burning. If selecting multiple patients, hold down the CTRL key on your keyboard, then click on the additional patients. All highlighted patients will be copied to the CD.
- Then click on the Create CD button in the CD burner window. The burning process will begin. There will be a message when the burn is complete and the CD will eject.
Installing an iCAT Vision CD with case(s) to another computer:
Now the CD can be inserted into another computer. It will auto run. The iCATVision program will be detected. The User can choose to install iCATVision and the case(s) Permanently or Temporarily. Once installed, the iCATVision program will open and the new case will be highlighted in the patient list and ready to be loaded. Just click on the patient name.