

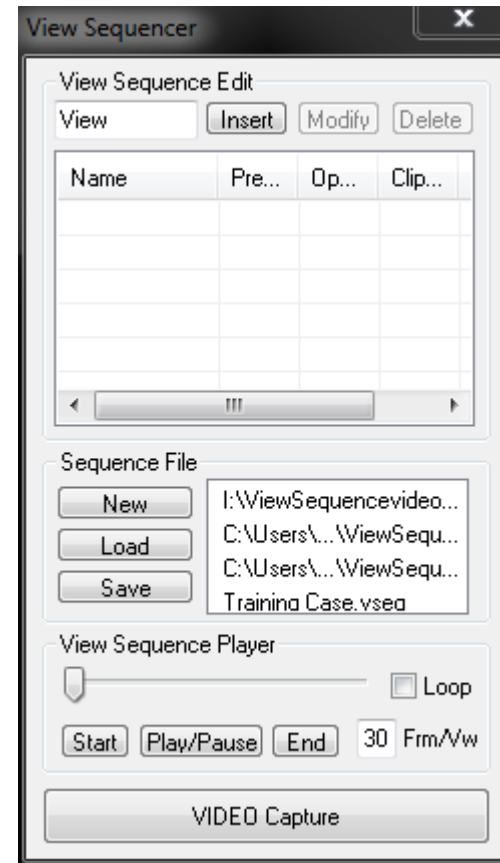


# Video Creation in Invivo

- This slideshow will give a step-by-step guide on how to make a video of a CT scan using the Invivo5 software.
- The Knee Replacements and Amputation CT scan from the Table Image Library is used for demonstration.
- The video that this guide was used to make can be accessed on YouTube.

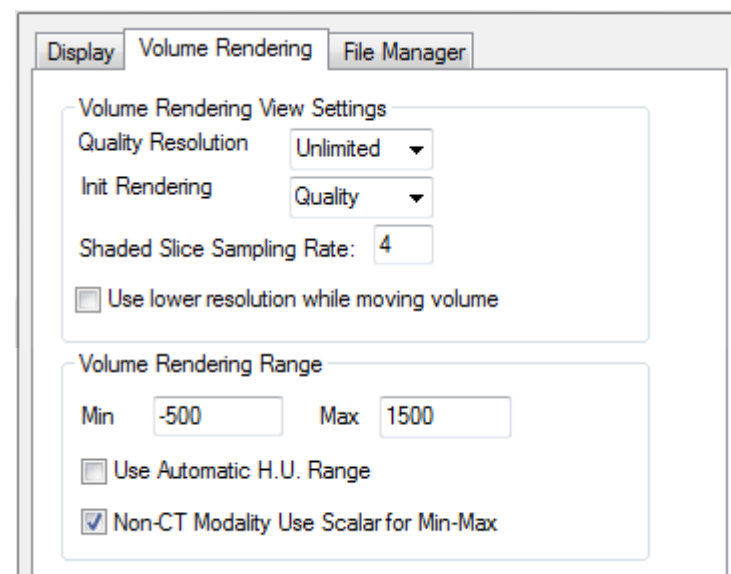
# Getting Started

- Open a CT scan in Invivo5 software.
- Adjust Visual Quality (see next slide).
- Click on Volume Render tab.
- Click the  icon to remove text from rendering window.
- Click the  icon to launch the View Sequencer.
- To add a scene to the view sequencer, click 'insert'.
- To make a change to an already inserted scene, click modify.



# Maxizing Visual Quality

- Click on File --> Preferences... and click on the 'Volume Rendering' tab. Before a movie is captured, change to the following settings:
  - Quality Resolution set to 'Unlimited'.
  - Init Rendering to 'Quality'.
  - Shaded Slice Sampling Rate to '4'.
  - Use lower resolution while moving volume set to unchecked.
- Use standard CT scan Volume Rendering Range of "Min = -500" to "Max = 1500".



# Basic Controls

<b><i>Control</i></b>	<b><i>Movement</i></b>	<b><i>Result</i></b>	<b><i>Description</i></b>
Left Click	Drag	Rotate	Rendering will rotate about the scanning region's geometric center point.
Shift + Left	Drag	Pan	Rendering will pan in the dragged direction.
Ctrl + Left Click	Drag	Zoom in/out	Rendering will become larger or smaller.
Spacebar + Left Click	Drag	Spin	Rendering will spin along the plane of the screen.

# Scene One

<b>Setting</b>	<b>Value</b>
Camera Angle	Frontal View
Volume Visibility	Full Volume
Rendering Type	Bone
Opacity	50%
Brightness	100%
Contrast	50%
Clipping Plane	Not Enabled

- 100% brightness used to show muscular and cardiovascular systems



# Scene Two

<b>Setting</b>	<b>Value</b>
Camera Angle	Frontal View
Volume Visibility	Full Volume
Rendering Type	Bone
Opacity	50%
Brightness	100%
Contrast	50%
Clipping Plane	Not Enabled

- Scene Two is identical to Scene One. This allows for a brief pause at the beginning of the video to establish the full volume before any movement begins.



# Scene Three

<b>Setting</b>	<b>Value</b>
Camera Angle	Right ¾ View
Volume Visibility	Zoom on Knees
Rendering Type	Bone
Opacity	50%
Brightness	80%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 0%</li></ul>

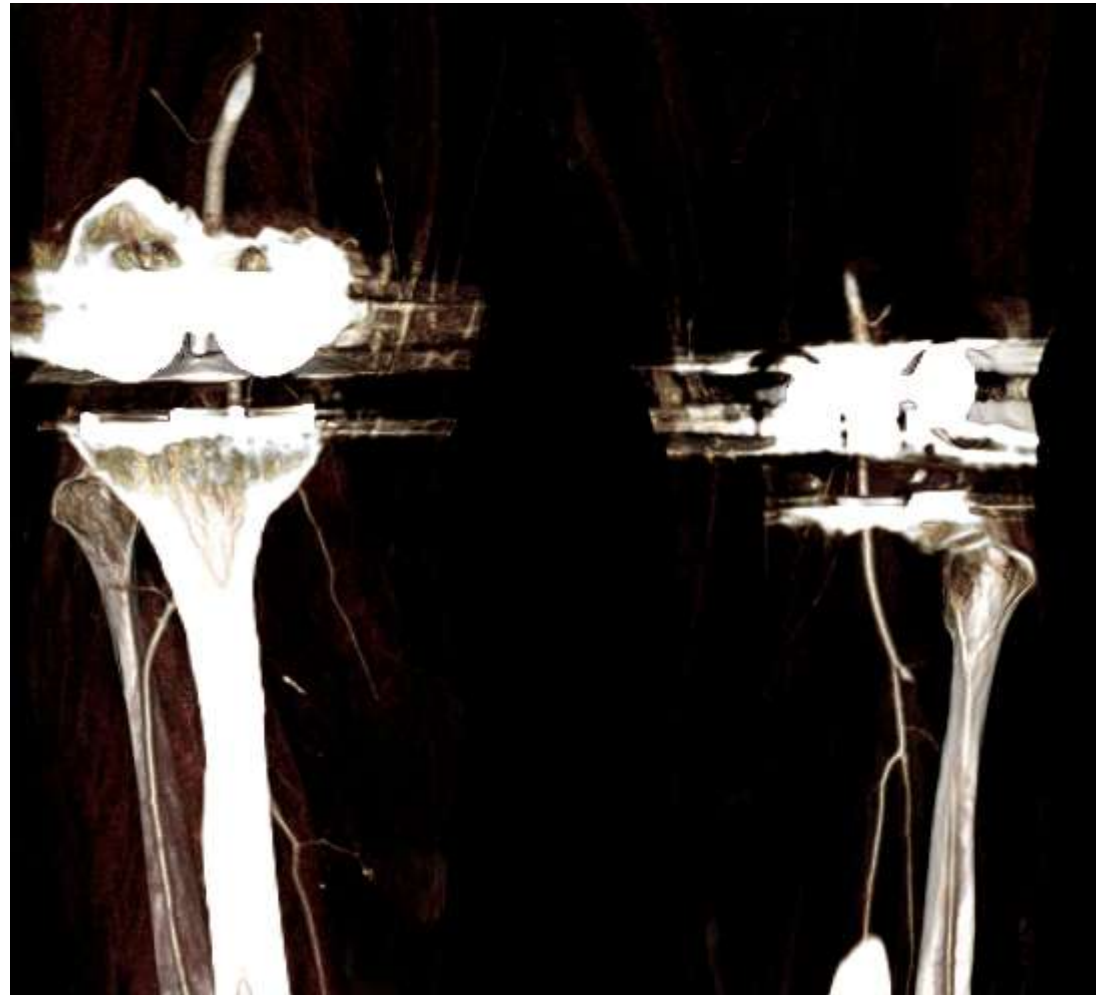
- A coronal clipping plane is added with 0% slider bar progress. This is done to establish the correct initial clipping plane location before the clip through is animated.





# Scene Four

<b>Setting</b>	<b>Value</b>
Camera Angle	Frontal View
Volume Visibility	Zoom on Knees
Rendering Type	Bone
Opacity	50%
Brightness	80%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 40%</li></ul>

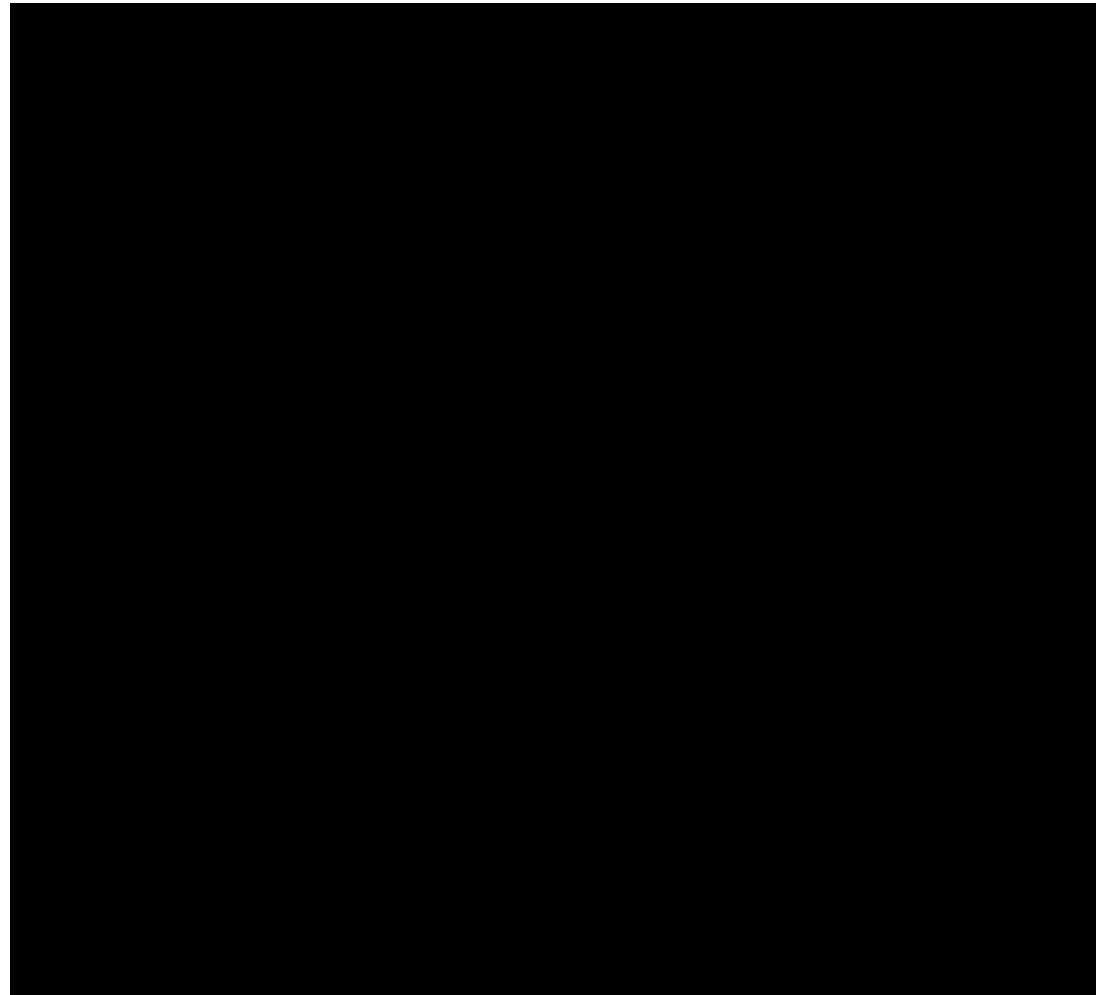




# Scene Five

<b>Setting</b>	<b>Value</b>
Camera Angle	Left $\frac{3}{4}$ View
Volume Visibility	Zoom on Knees
Rendering Type	Teeth
Opacity	50%
Brightness	80%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 80%</li></ul>

- The Bone to Teeth rendering change occurs while the screen is black to create a more natural transition. This avoids any abrupt change in the appearance of the volume.



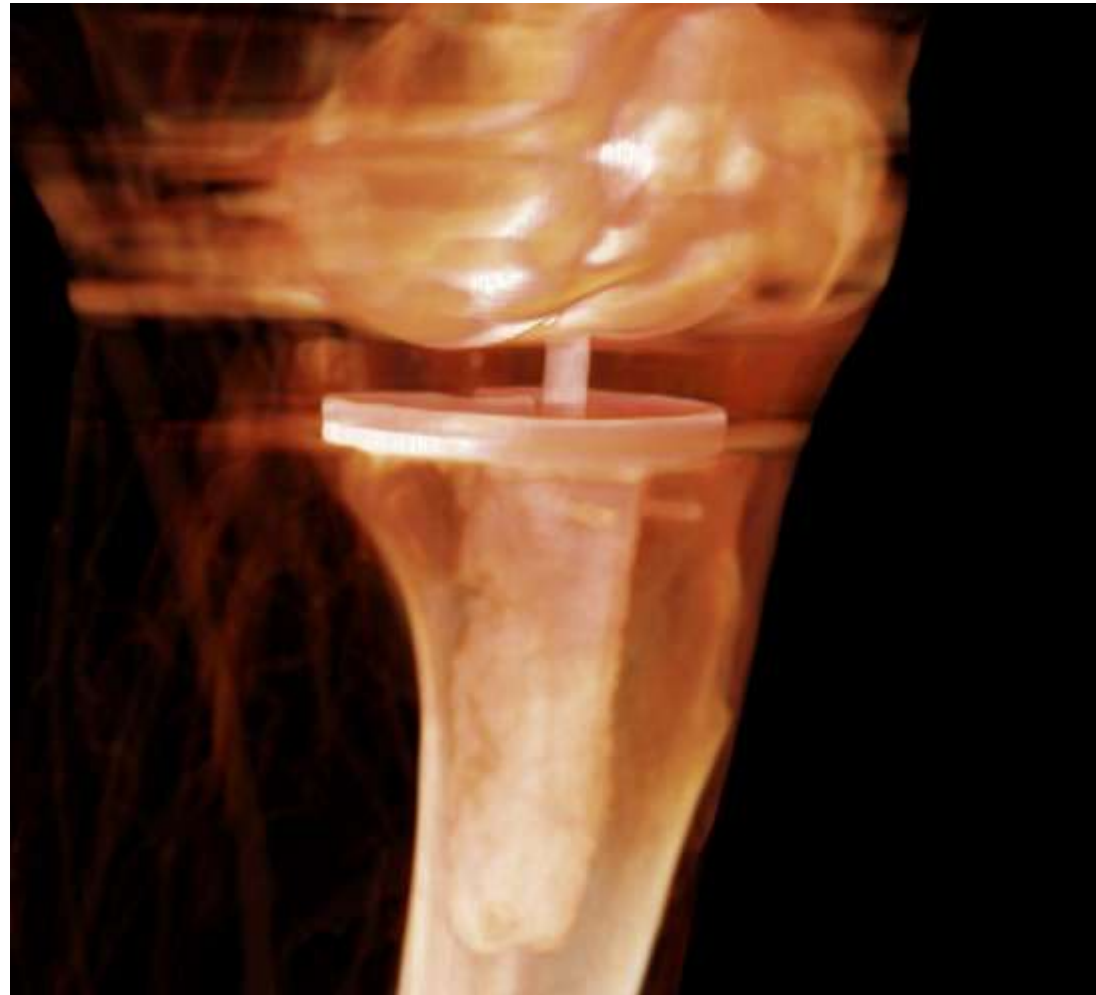
# Scene Six

<b>Setting</b>	<b>Value</b>
Camera Angle	Frontal View
Volume Visibility	Zoom on Knees
Rendering Type	Teeth
Opacity	50%
Brightness	80%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 40%</li></ul>



# Scene Seven

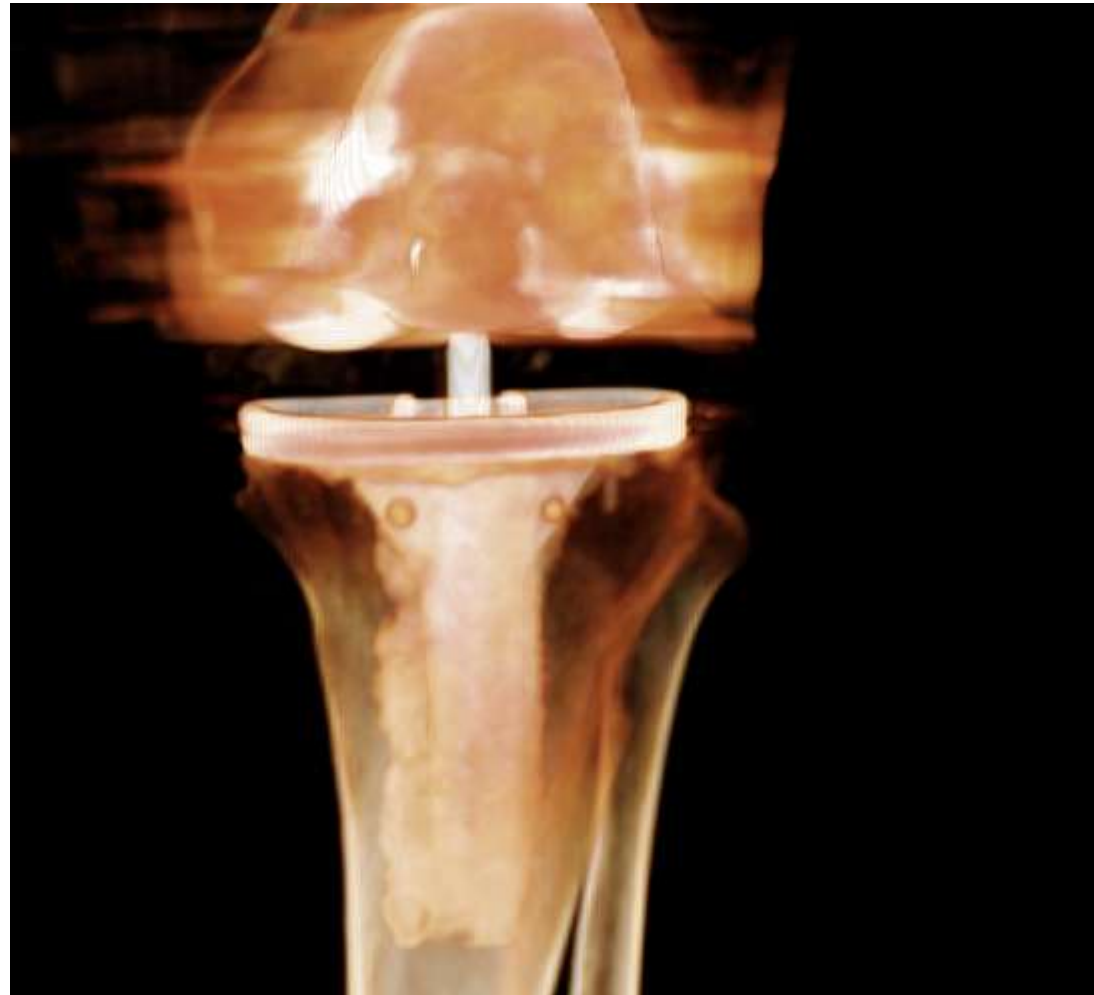
<b>Setting</b>	<b>Value</b>
Camera Angle	Right $\frac{3}{4}$ View
Volume Visibility	Zoom on Implant
Rendering Type	Teeth
Opacity	50%
Brightness	80%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 0%</li></ul>



# Scene Eight

<b>Setting</b>	<b>Value</b>
Camera Angle	Frontal View
Volume Visibility	Zoom on Implant
Rendering Type	Teeth
Opacity	50%
Brightness	60%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 0%</li></ul>

- Brightness is reduced to get a better view of the knee implant.



# Scene Nine

<b>Setting</b>	<b>Value</b>
Camera Angle	Left $\frac{3}{4}$ View
Volume Visibility	Zoom on Implant
Rendering Type	Teeth
Opacity	50%
Brightness	60%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 0%</li></ul>



# Scene Ten

<b>Setting</b>	<b>Value</b>
Camera Angle	Frontal View
Volume Visibility	Full Volume
Rendering Type	Teeth
Opacity	50%
Brightness	60%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 0%</li></ul>



# Scene Ten

<b>Setting</b>	<b>Value</b>
Camera Angle	Frontal View
Volume Visibility	Full Volume
Rendering Type	Teeth
Opacity	50%
Brightness	60%
Contrast	50%
Clipping Plane	<ul style="list-style-type: none"><li>• Enabled</li><li>• Coronal</li><li>• 0%</li></ul>





# Video Capture Settings

- File Location
  - Choose file name and saved location of the video
- Codec
  - Anatomage recommends the Xvid Codec which is available for a free download at <https://www.xvid.com/>. This codec has a strong compression rate while maintaining good visual quality.
- Video Frames and Playing time
  - The ratio of Frames/View to Frames/Sec will determine the Total Play Time of the video.
  - For most videos, 75 Frames/View and 30 Frames/Sec are recommended.
  - If a slower video is desired, 150 Frames/View and 30 Frames/Sec are recommended
- Ending Logo
  - A static ending image can be played for a variable amount of time at the end of the video.

