



Guided Mark-Up in Metron: TPLO Analysis for Canine



Click F11 on your keyboard for full screen display!

Dependent on your screen size, the menu buttons on the Database Browser screen may appear in one or two rows.



Guided Mark-Up in Metron: TPLO Analysis for Canine

This online training session will provide you with the details of how to use "Guided Mark-Up in Metron: TPLO Analysis for Canine".



Click F11 on your keyboard for full screen display!

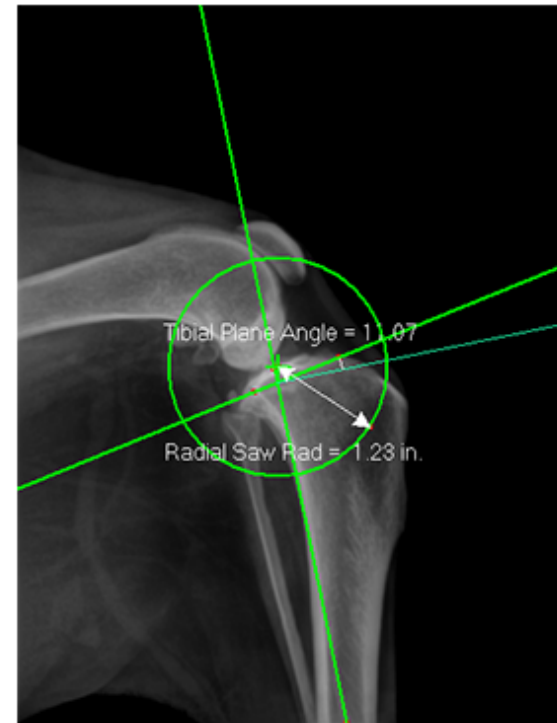
Dependent on your screen size, the menu buttons on the Database Browser screen may appear in one or two rows.

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Guided Mark-Up: TPLO Analysis | Canine

What is Guided Mark-Up?

Metron supports a process called "Guided Mark-Up" in which the user is prompted to pick key points in certain images of the canine joint, and Metron then uses those picked points to compute important parameters of the TPLO.



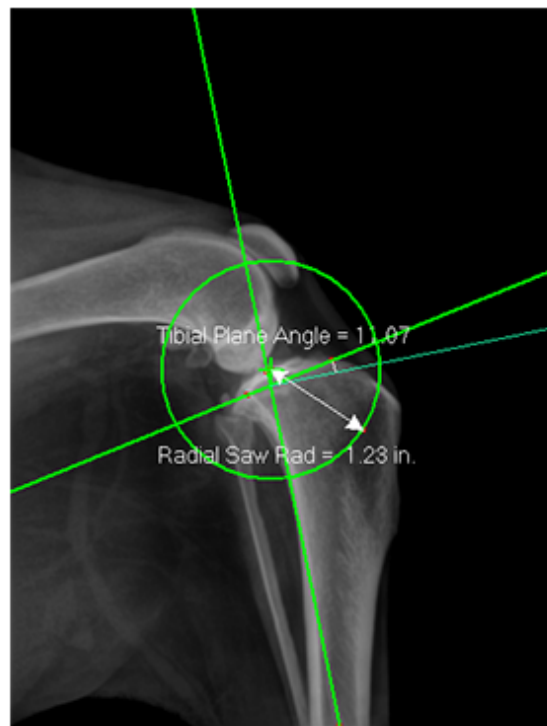
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What is Tibial Plateau Leveling Osteotomy (TPLO)?

A series of three measurements that are used with the Metron algorithms to present you with a complete analysis of the joint.



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With Metron, you will always start in the 'Database Browser' screen where thumbnails of all the images in the currently selected study are displayed on the screen.



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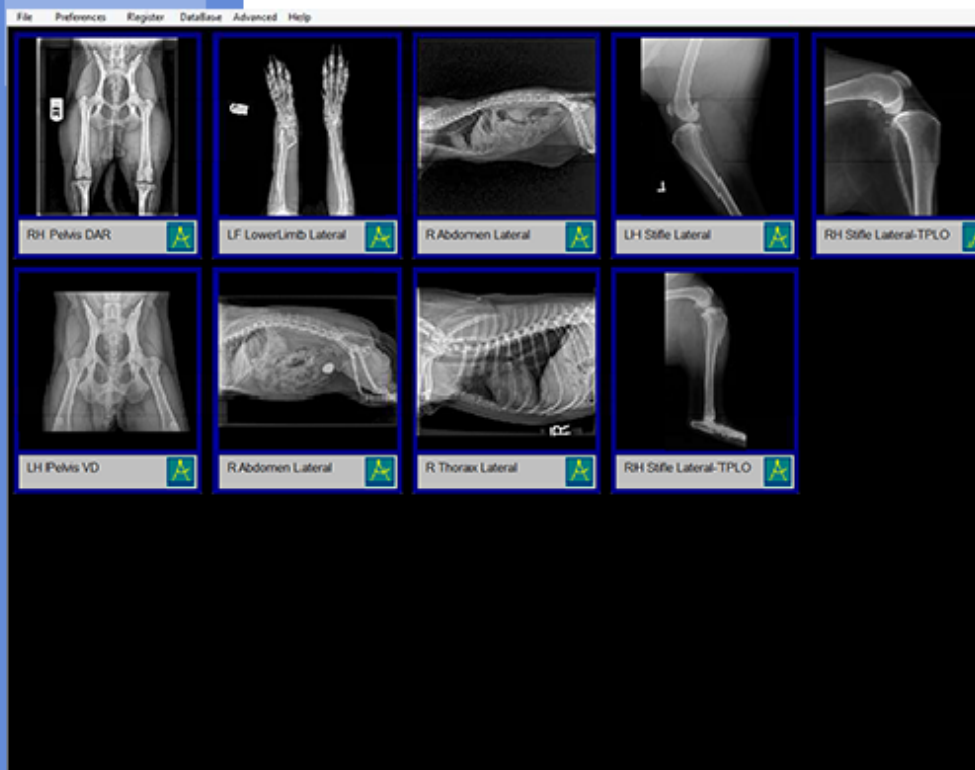
A study is the group of images for a particular owner, animal and date combination. Metron always starts at the study you were viewing when you last used Metron.



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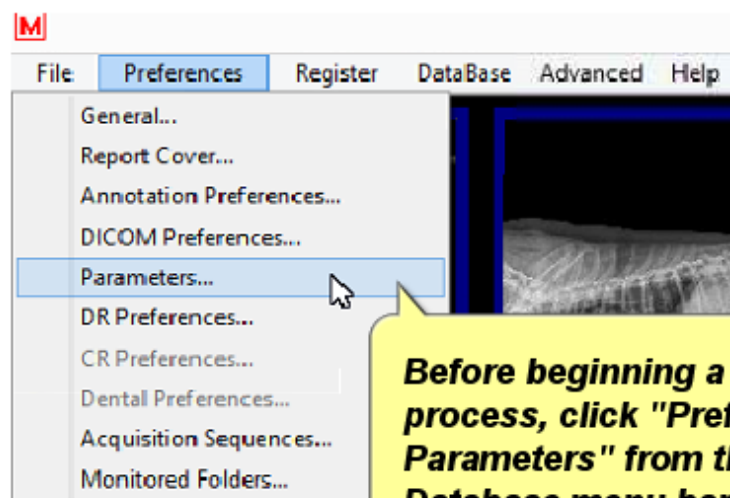
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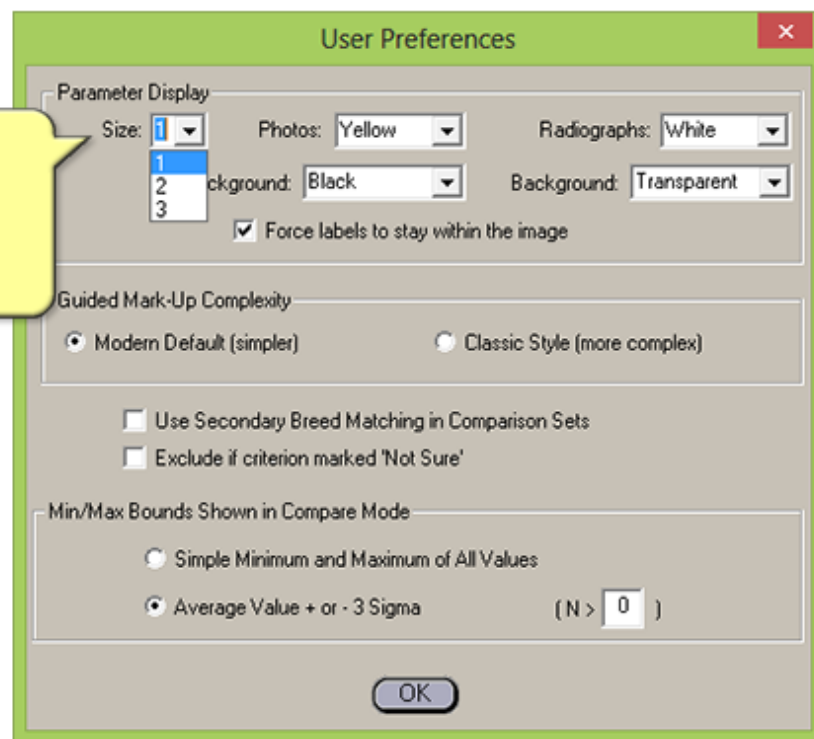


Before beginning a Guided Mark-Up process, click "Preferences" then "Parameters" from the Metron Database menu bar.

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***User Preferences can
be selected here for
Mark-Up line width...***

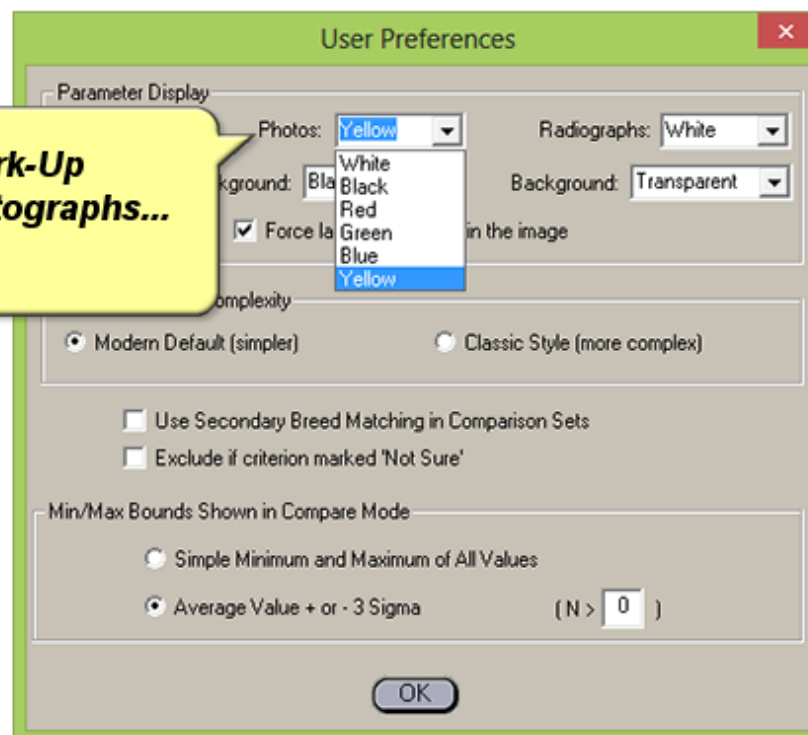


The 'User Preferences' dialog box is shown with a green title bar and a red close button. It contains several sections: 'Parameter Display' with dropdowns for 'Size' (1, 2, 3), 'Photos' (Yellow), 'Radiographs' (White), 'Background' (Black), and 'Background' (Transparent), along with a checked checkbox 'Force labels to stay within the image'; 'Guided Mark-Up Complexity' with radio buttons for 'Modern Default (simpler)' and 'Classic Style (more complex)'; checkboxes for 'Use Secondary Breed Matching in Comparison Sets' and 'Exclude if criterion marked 'Not Sure''; and 'Min/Max Bounds Shown in Compare Mode' with radio buttons for 'Simple Minimum and Maximum of All Values' and 'Average Value + or - 3 Sigma' (with a field for N > 0). An 'OK' button is at the bottom.

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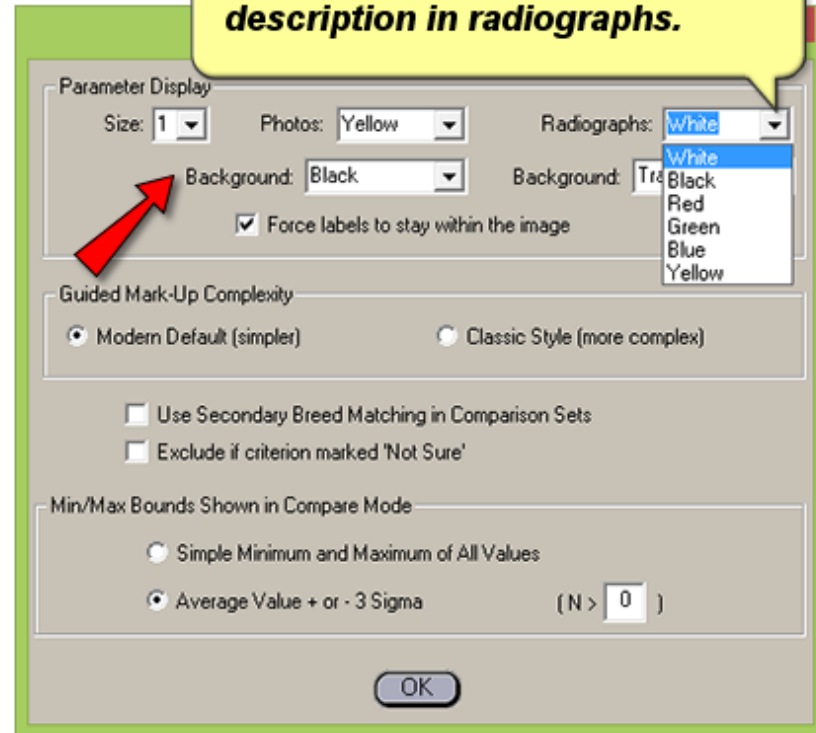
***...font color for Mark-Up
description in photographs...***



The image shows a 'User Preferences' dialog box with a green title bar and a red close button. The 'Parameter Display' section is active, showing a dropdown menu for 'Photos' with 'Yellow' selected. Other options in the dropdown include White, Black, Red, Green, Blue, and Yellow. To the right, 'Radiographs' is set to 'White' and 'Background' is set to 'Transparent'. Below these, there is a checkbox for 'Force label in the image' which is checked. Further down, there are radio buttons for 'Modern Default (simpler)' and 'Classic Style (more complex)'. Below that are two unchecked checkboxes: 'Use Secondary Breed Matching in Comparison Sets' and 'Exclude if criterion marked 'Not Sure''. At the bottom, there is a section for 'Min/Max Bounds Shown in Compare Mode' with two radio buttons: 'Simple Minimum and Maximum of All Values' and 'Average Value + or - 3 Sigma'. The 'Average Value + or - 3 Sigma' option is selected, and next to it is a text box containing '0' with a label '(N >)'. An 'OK' button is at the bottom right of the dialog.

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**and font color for Mark-Up
description in radiographs.**



The screenshot shows a software dialog box titled "Guided Mark-Up Complexity". It contains several sections for configuring the mark-up process. A red arrow points to the "Radiographs" dropdown menu, which is currently set to "White" and has a list of color options open. The options are: White, Black, Red, Green, Blue, and Yellow. The "Background" dropdown is set to "Black". The "Force labels to stay within the image" checkbox is checked. The "Guided Mark-Up Complexity" section has two radio buttons: "Modern Default (simpler)" (selected) and "Classic Style (more complex)". There are two unchecked checkboxes: "Use Secondary Breed Matching in Comparison Sets" and "Exclude if criterion marked 'Not Sure'". The "Min/Max Bounds Shown in Compare Mode" section has two radio buttons: "Simple Minimum and Maximum of All Values" and "Average Value + or - 3 Sigma" (selected). The "Average Value + or - 3 Sigma" option has a text input field showing "0". An "OK" button is at the bottom right.

Parameter Display

Size: 1 Photos: Yellow Radiographs: White

Background: Black Background: Tra

☒ Force labels to stay within the image

Guided Mark-Up Complexity

☒ Modern Default (simpler) ☐ Classic Style (more complex)

☐ Use Secondary Breed Matching in Comparison Sets

☐ Exclude if criterion marked 'Not Sure'

Min/Max Bounds Shown in Compare Mode

☐ Simple Minimum and Maximum of All Values

☒ Average Value + or - 3 Sigma (N > 0)

OK

All other areas checked are set as Metron default settings and seldom need to be changed.

User Preferences

Parameter Display

Size: Photos: Radiographs:

Background: Background:

☒ Force labels to stay within the image

Guided Mark-Up Complexity

☒ Modern Default (simpler) ☐ Classic Style (more complex)

☐ Use Secondary Breed Matching in Comparison Sets

☐ Exclude if criterion marked 'Not Sure'

Min/Max Bounds Shown in Compare Mode

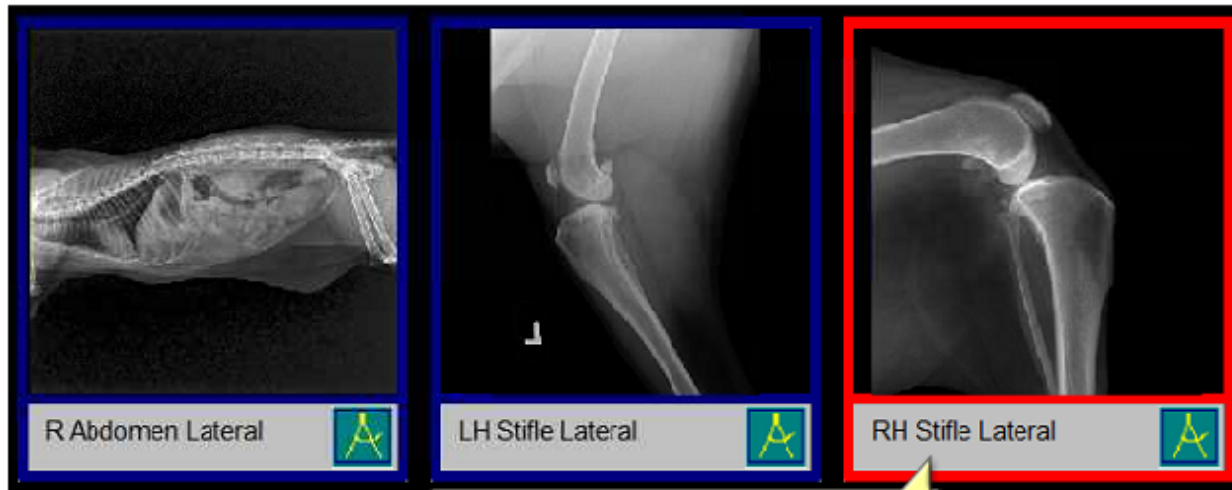
☐ Simple Minimum and Maximum of All Values

☒ Average Value + or - 3 Sigma (N >)

OK

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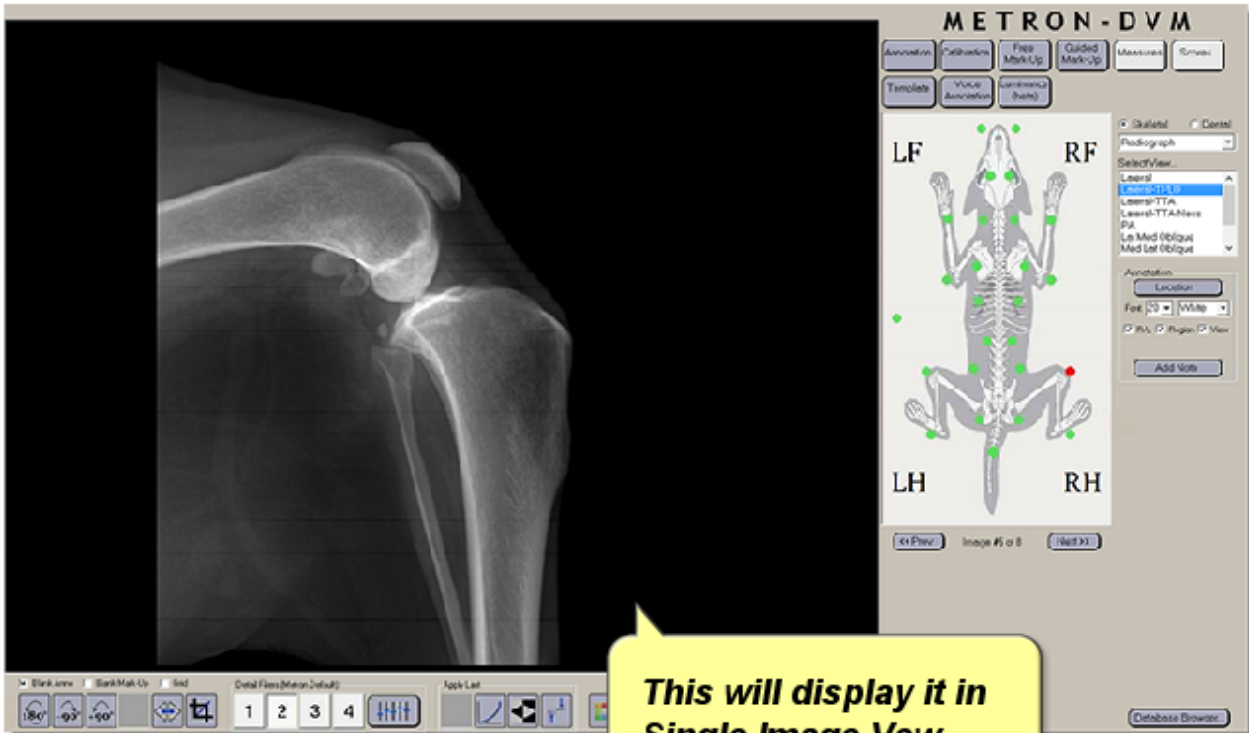
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Select an image by double clicking on the image.

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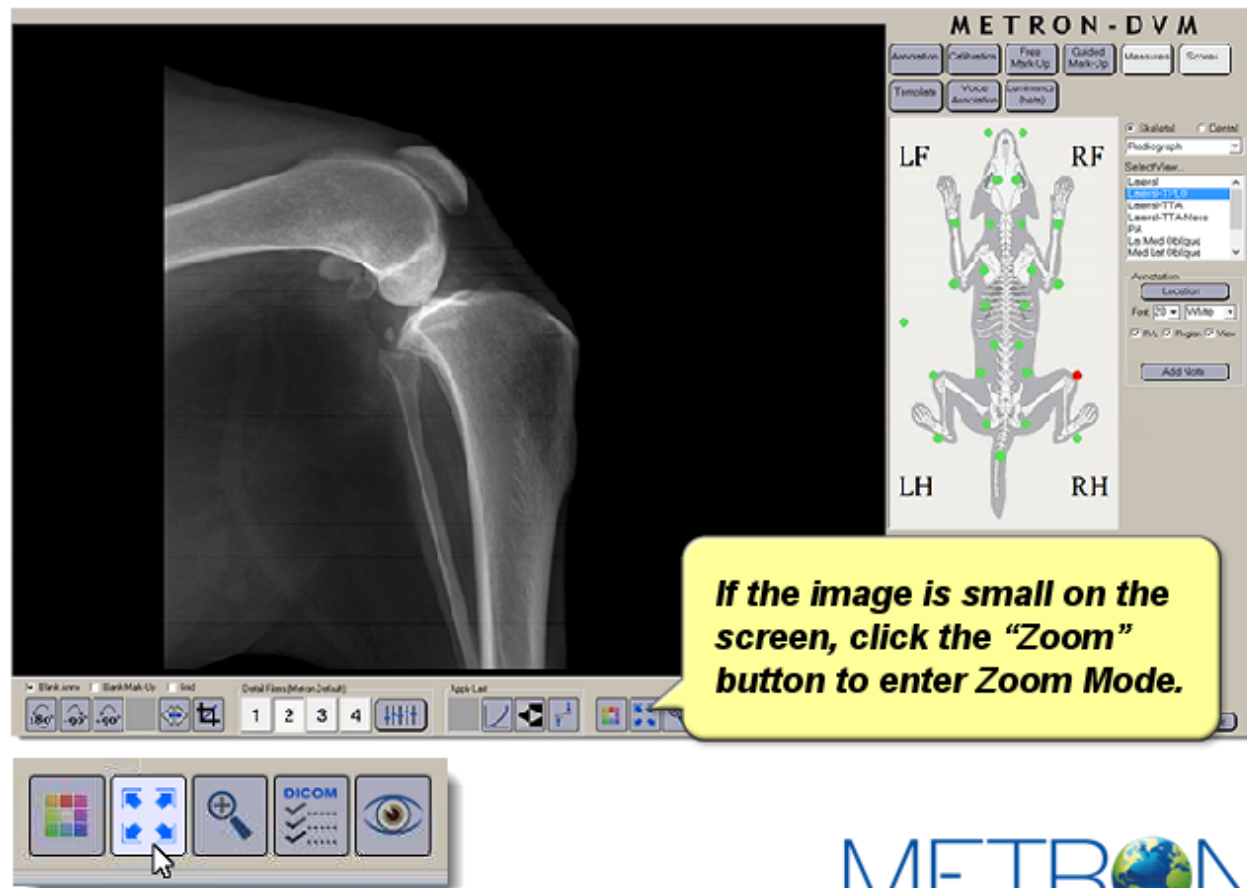


This will display it in Single Image View.

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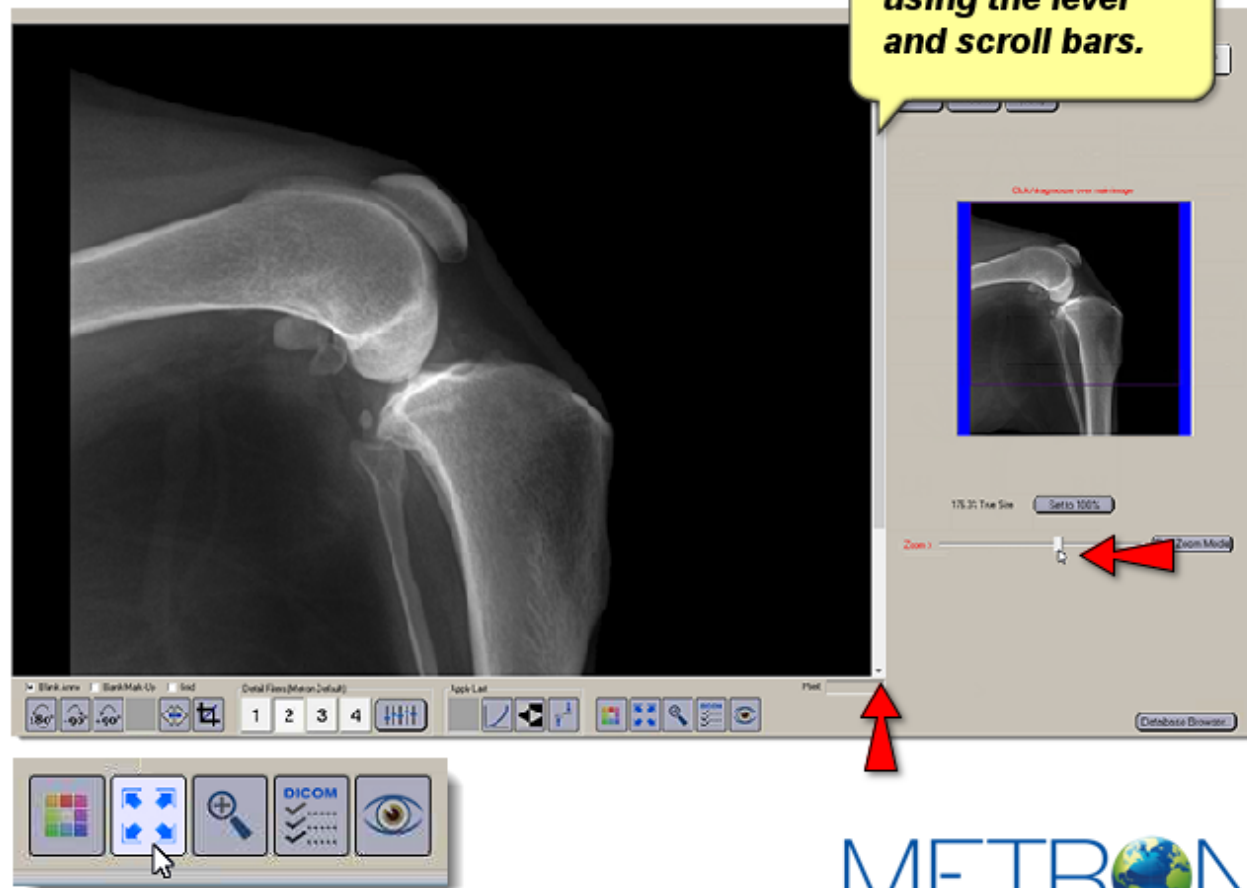


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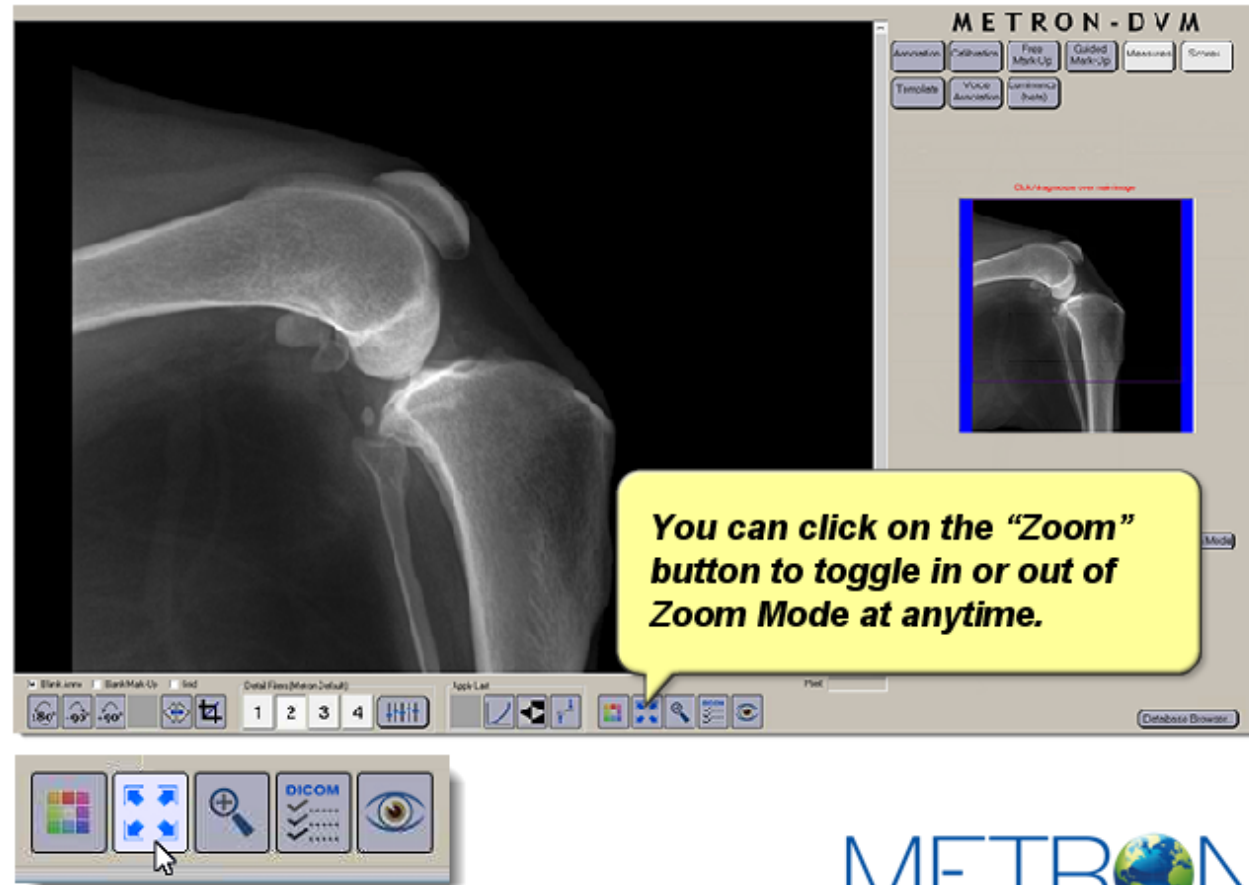
14

Guided Mark-Up: TPLO Analy

Adjust the size and positioning of the image using the lever and scroll bars.



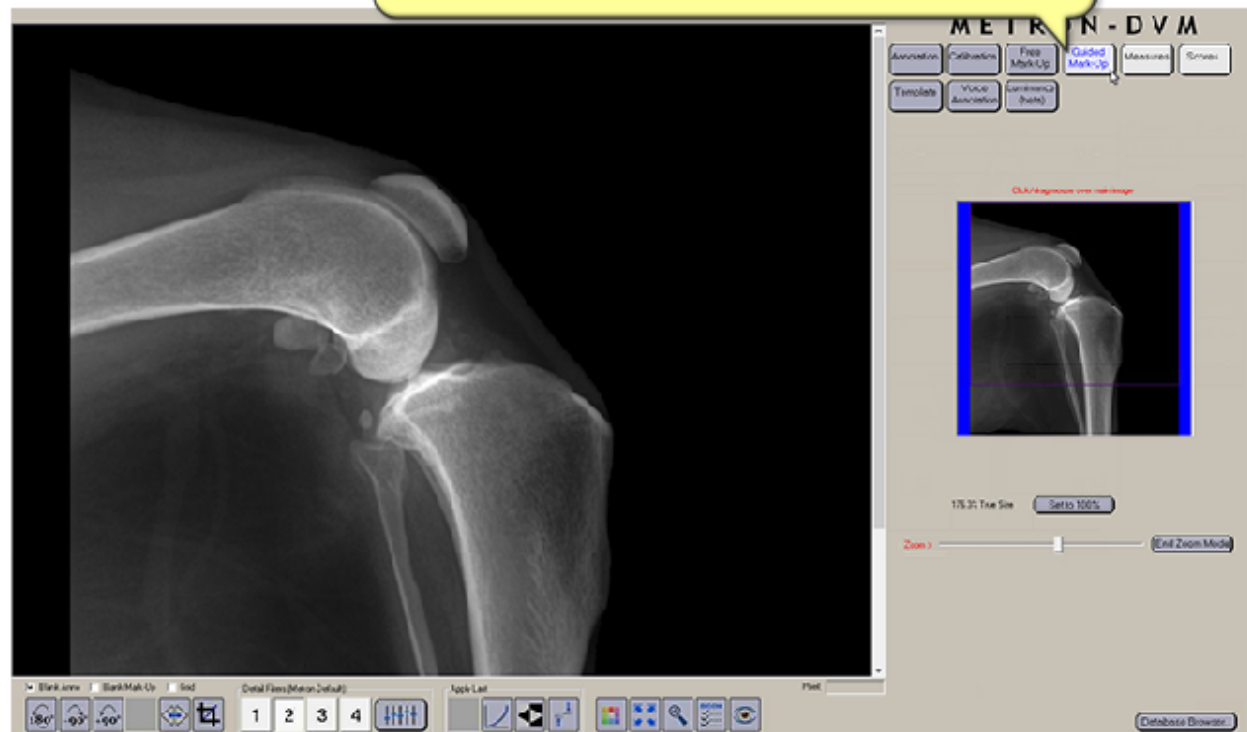
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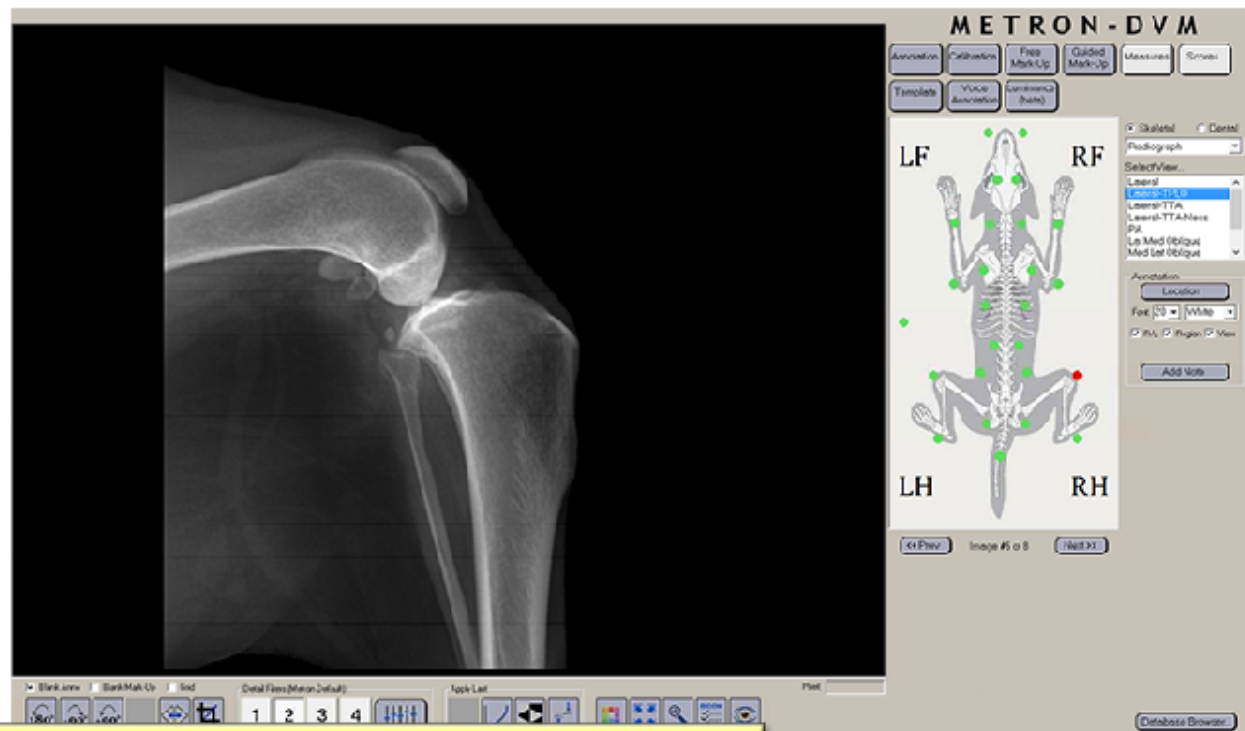
Click on the 'Guided Mark-Up' button.



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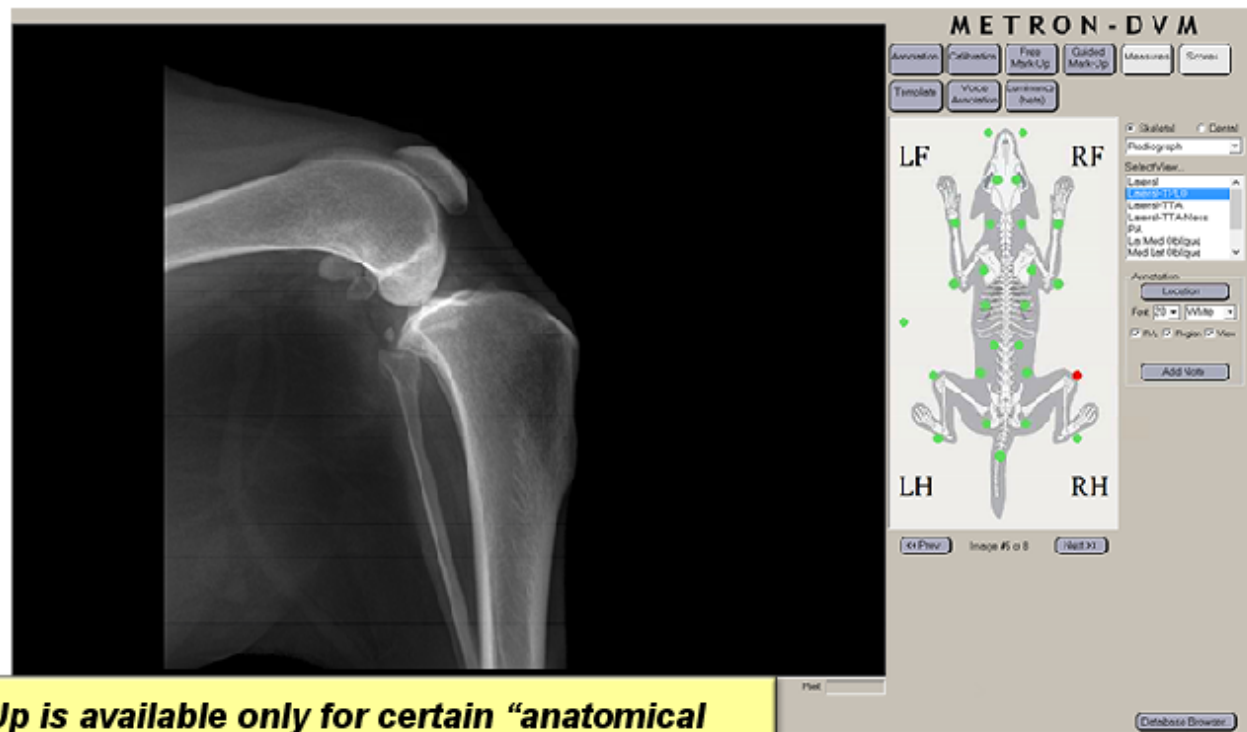


Guided Mark-Up steps you through doing mark-ups on your image. When you click the 'Guided Mark-Up' button and you have not previously calibrated this image, you will first be brought to the Calibration panel.

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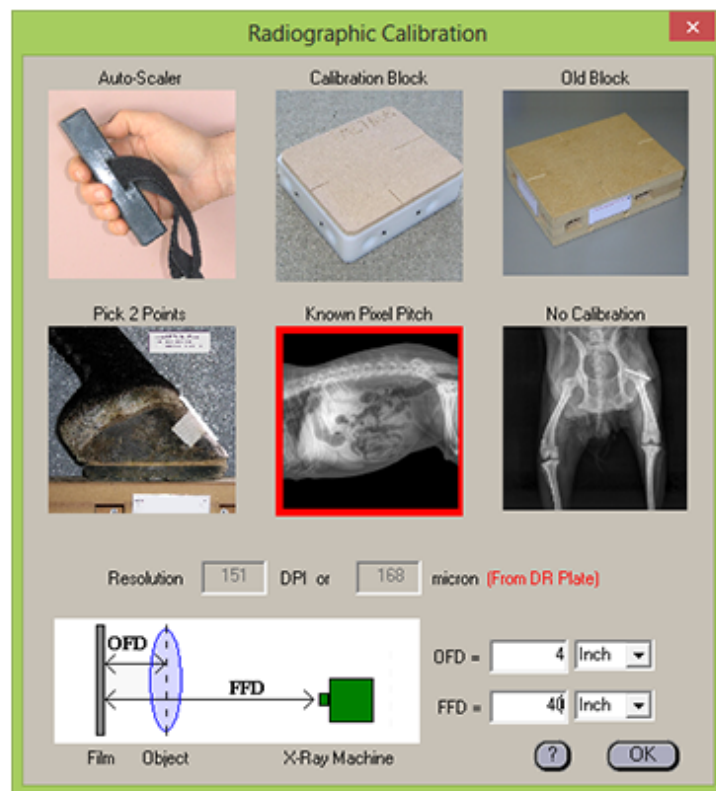


Guided Mark-Up is available only for certain “anatomical regions” - for the canine, the 'Guided Mark-Up' button only becomes available when you indicate that the image is of the stifle. For canine and feline, there is also a Guided Mark-Up for VHS.

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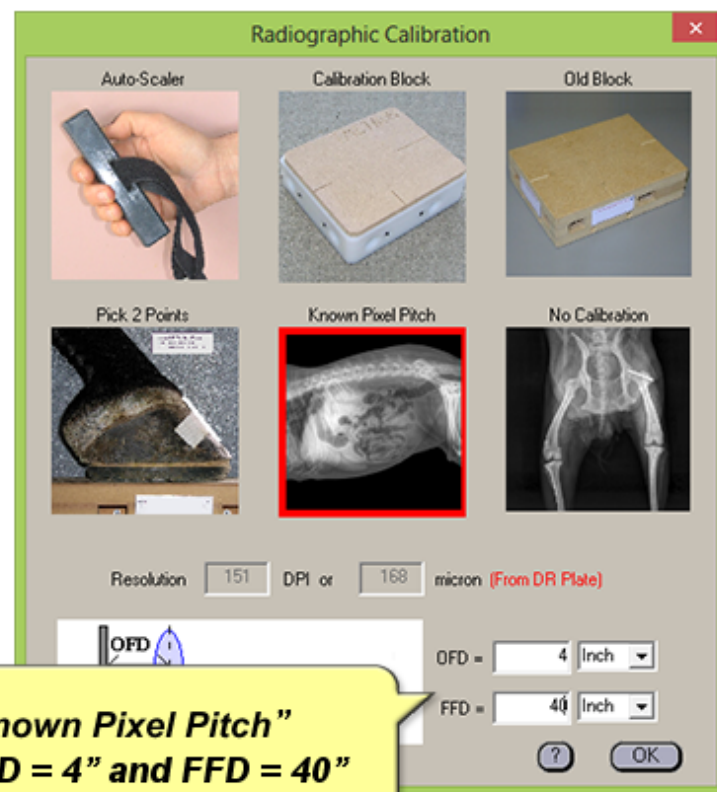
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If the calibration panel pops up, and the image was taken with a CR or DR system controlled by Metron, the entries as shown to the right can be used to calibrate.



Guided Mark-Up: TPLO Analysis | Canine

If the calibration panel pops up, and the image was taken with a CR or DR system controlled by Metron, the entries as shown to the right can be used to calibrate.



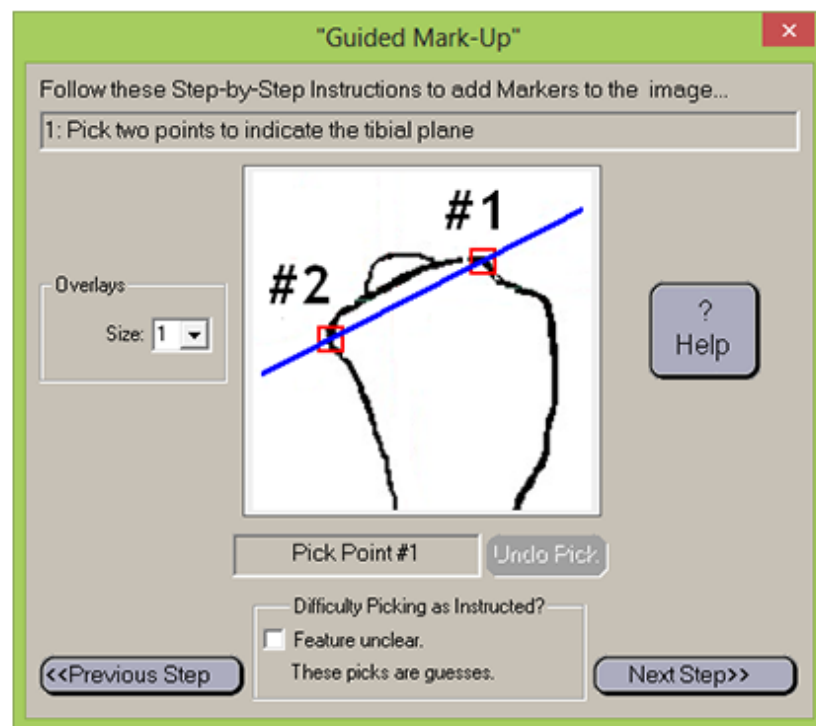
**Use "Known Pixel Pitch"
and OFD = 4" and FFD = 40"
for small animal table.**

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The following are the three steps as indicated on the instruction window.

Step 1: "Tibial Plane"

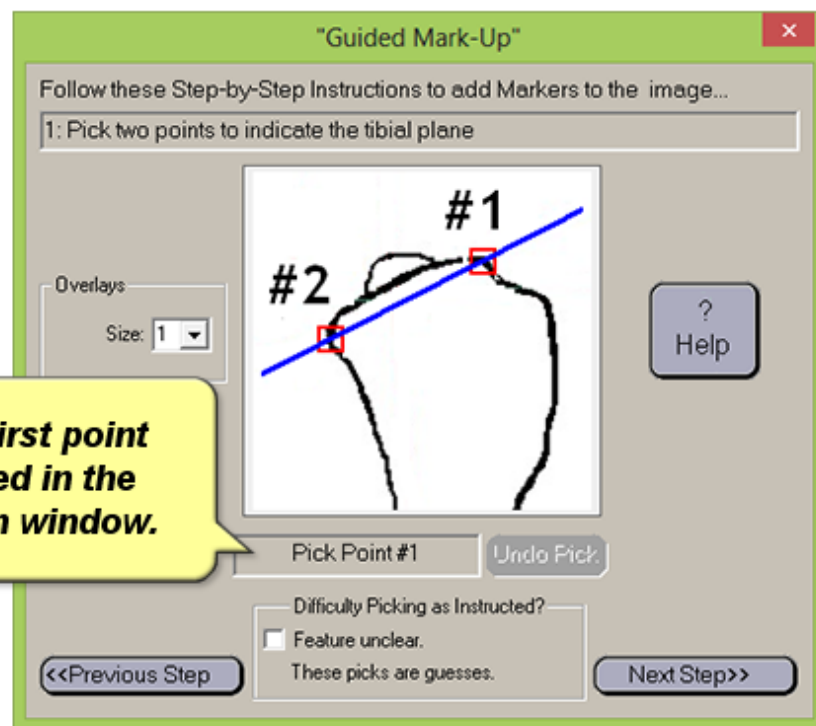


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The following are the three steps as indicated on the instruction window.

Step 1: "Tibial Plane"

**Click the first point
as indicated in the
instruction window.**



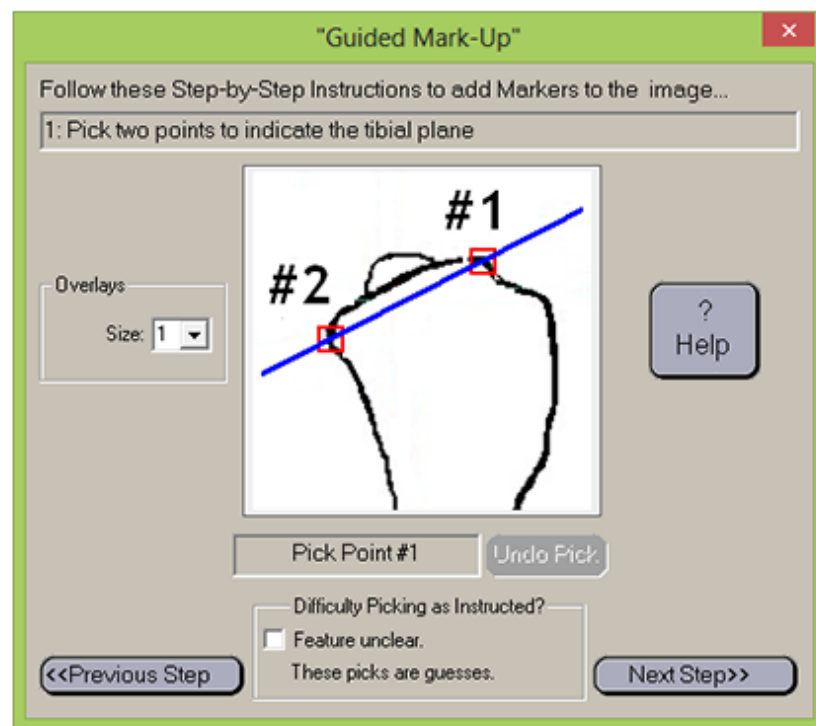
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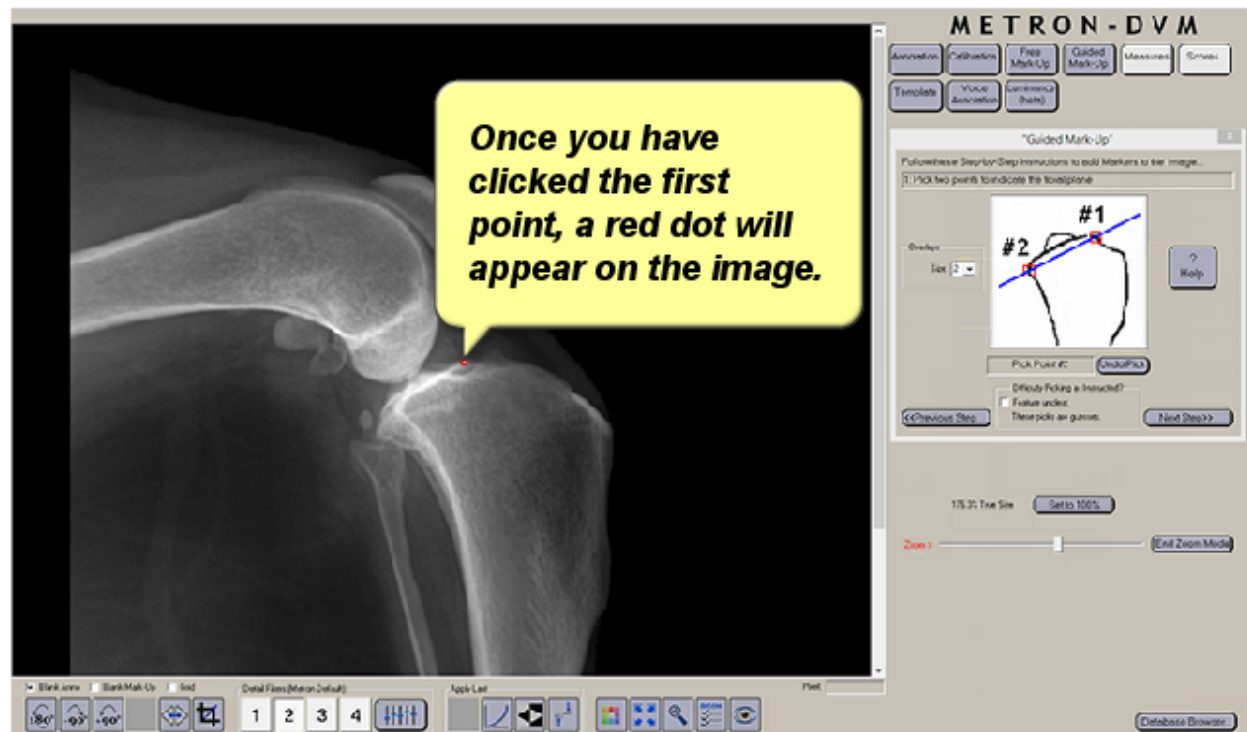
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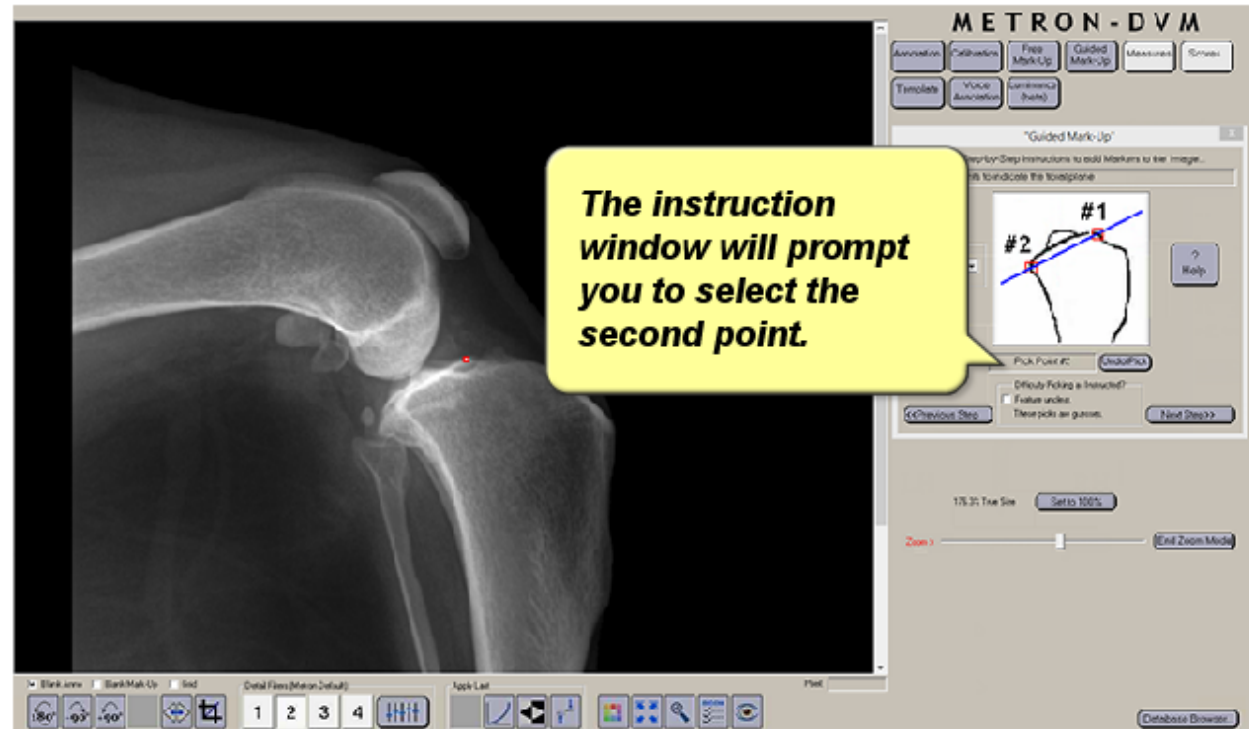
Two points are used to construct a line that defines the '**Tibial Plane**'.

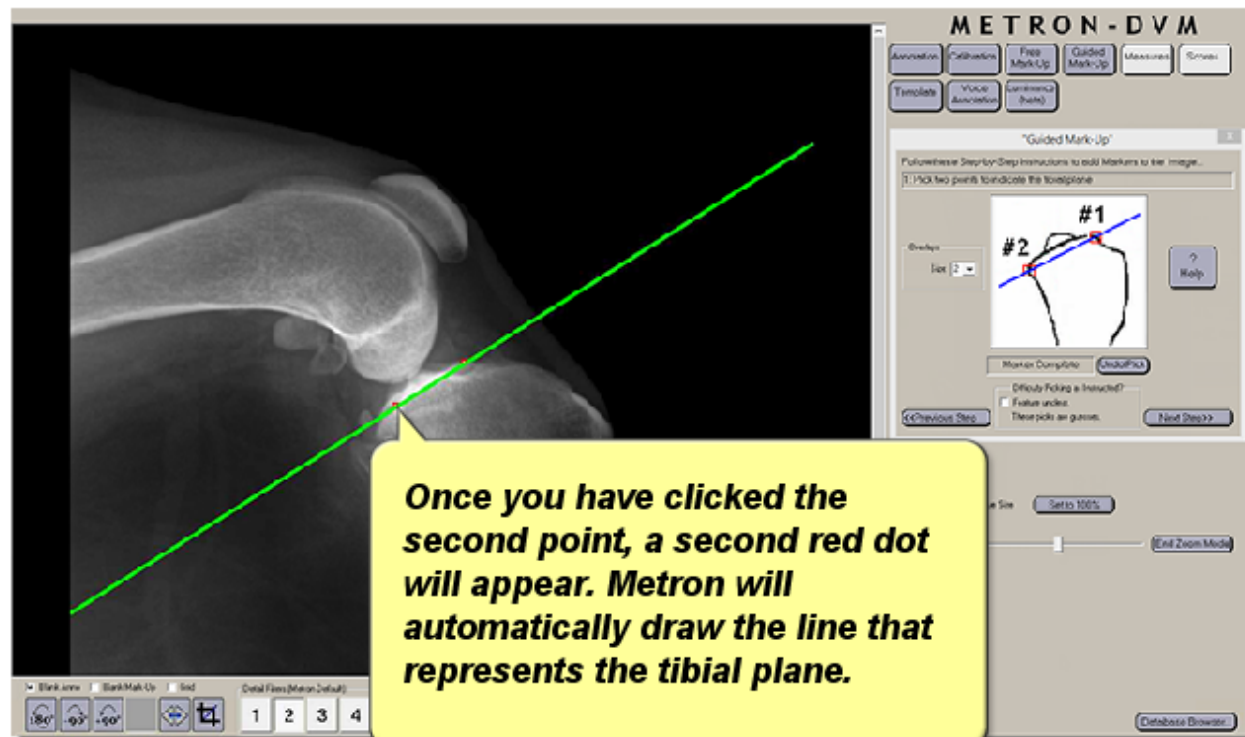
Point #1 is at the cranial aspect of the tibial plateau.

Point #2 is at the caudal aspect of the tibial plateau.

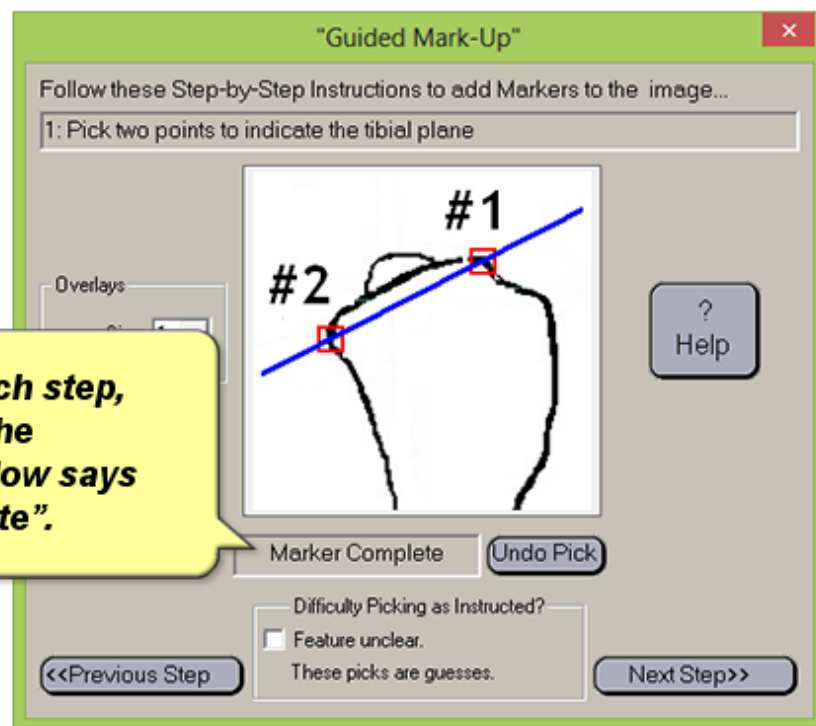


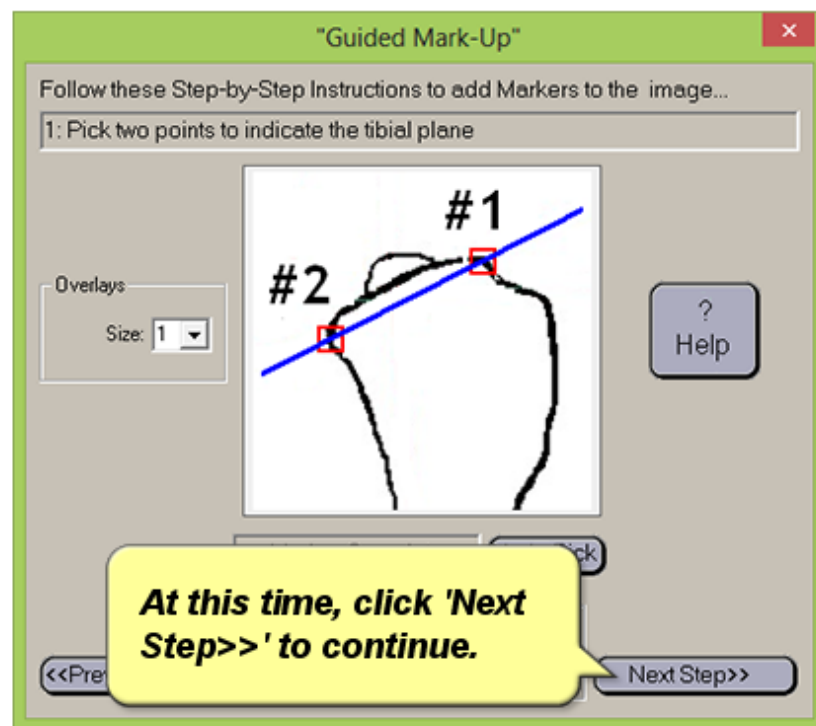




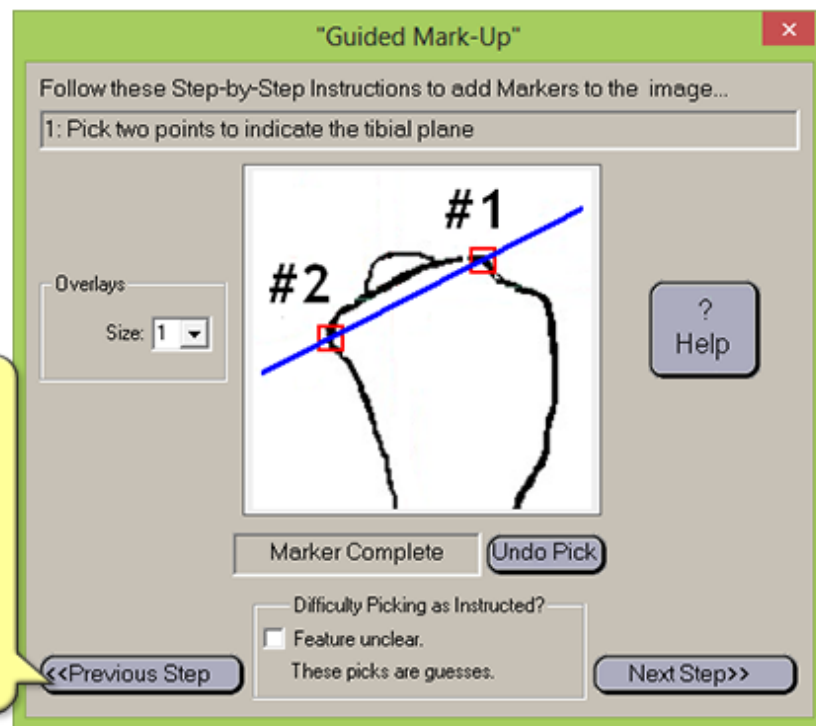


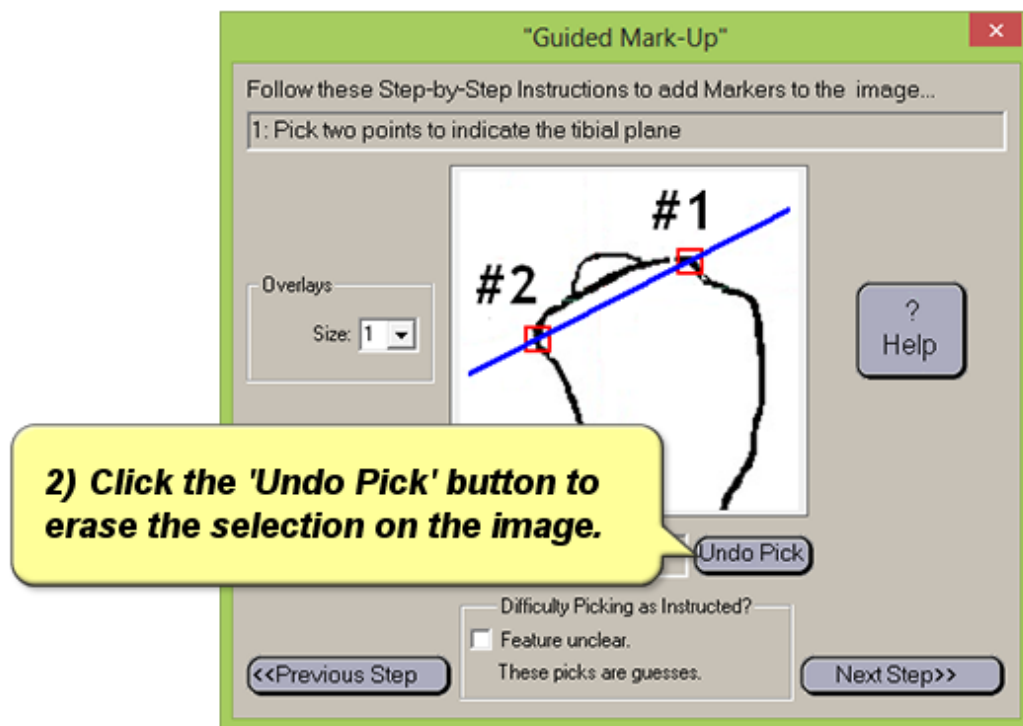
***At the end of each step,
you will notice the
instruction window says
"Marker Complete".***

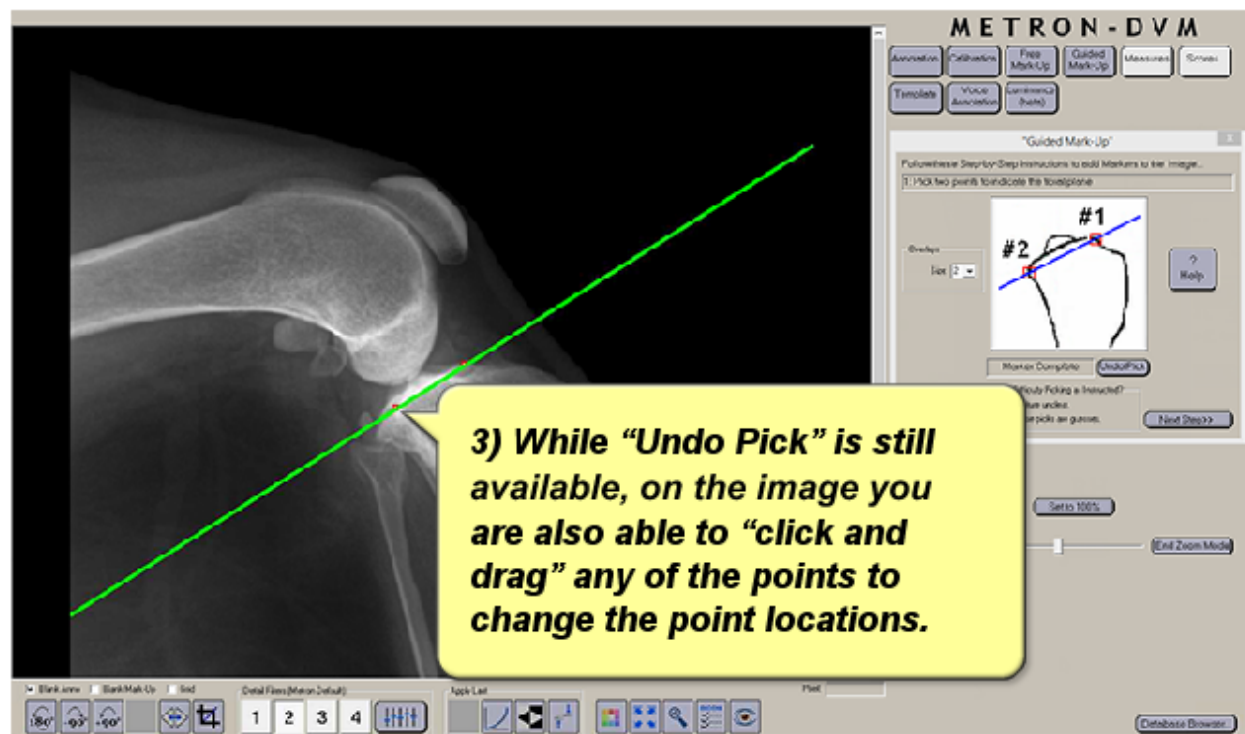


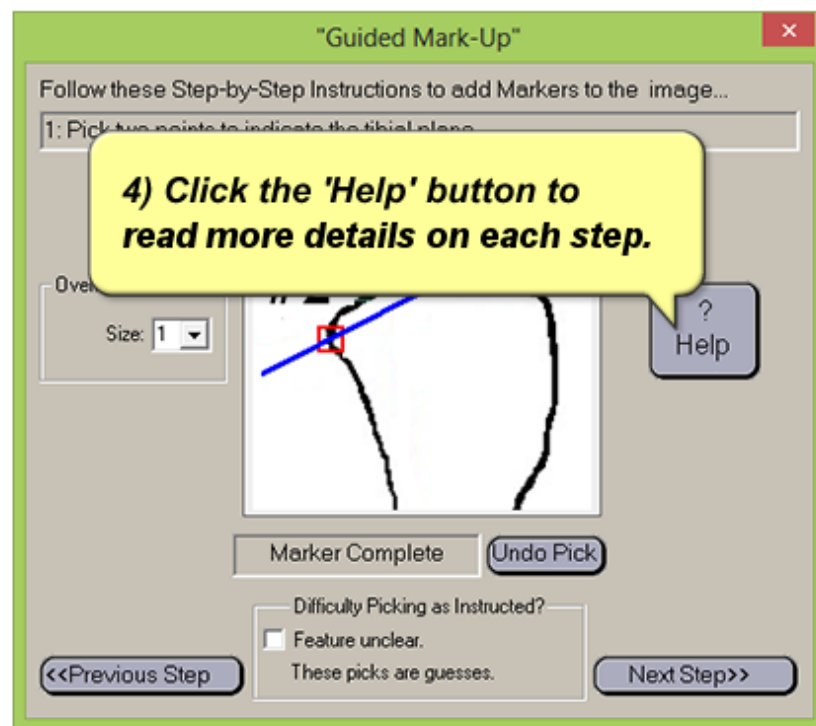


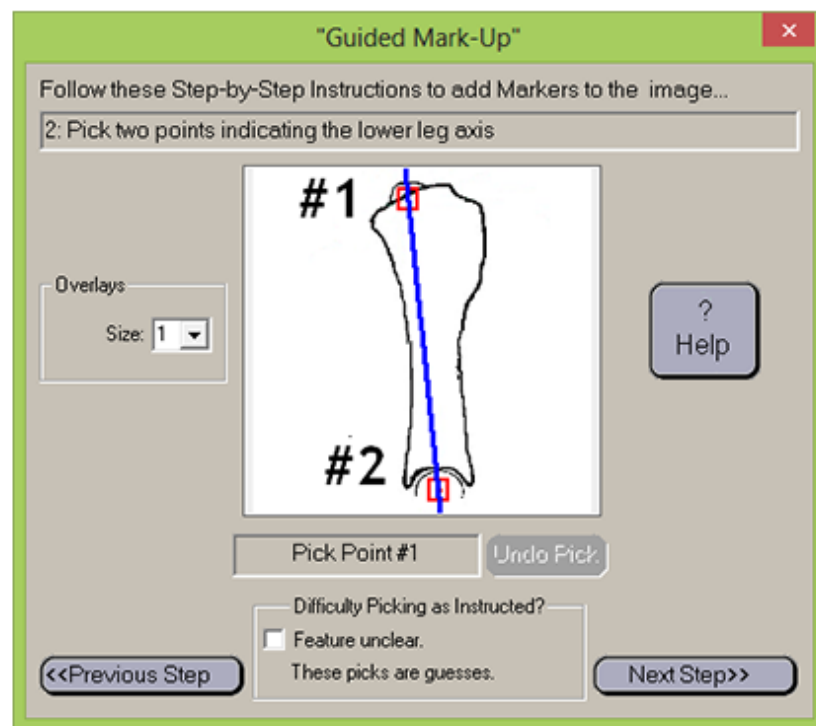
Also, at any point you are able to:
1) Click the '<<Previous Step' button to move back one step at a time.





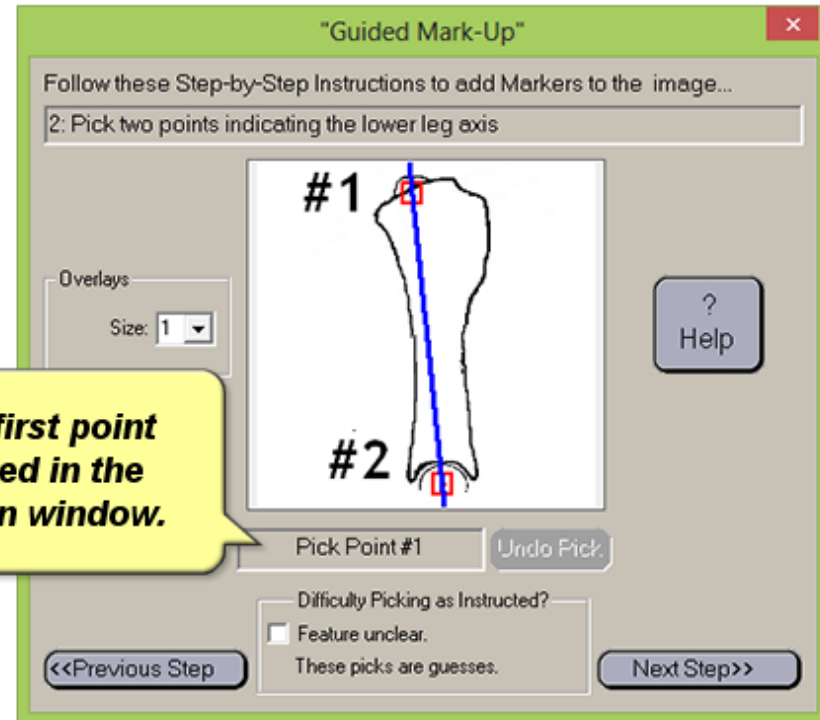




**Step 2:
"Lower Leg Axis"**

**Step 2:
"Lower Leg Axis"**

**Click the first point
as indicated in the
instruction window.**

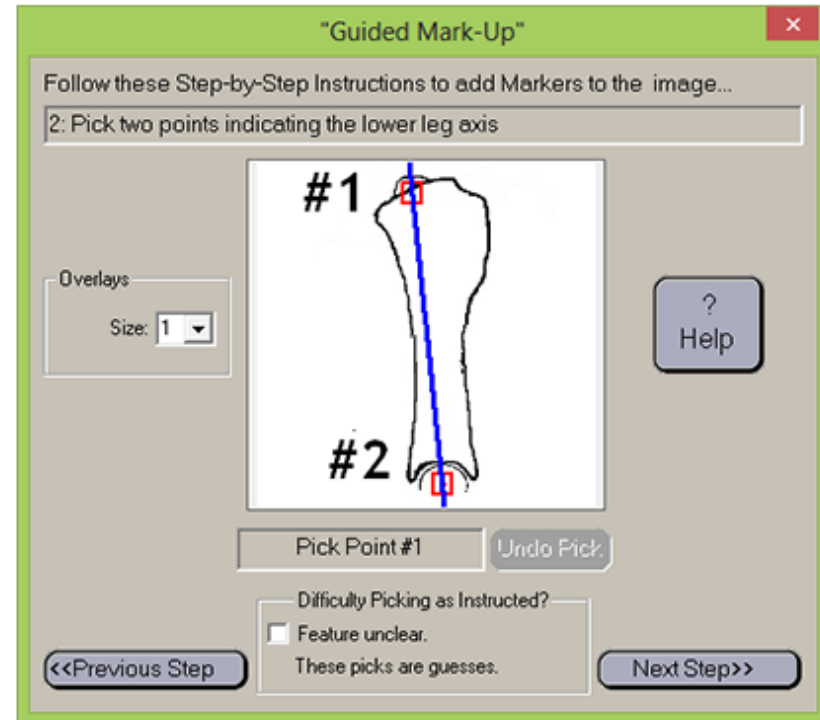


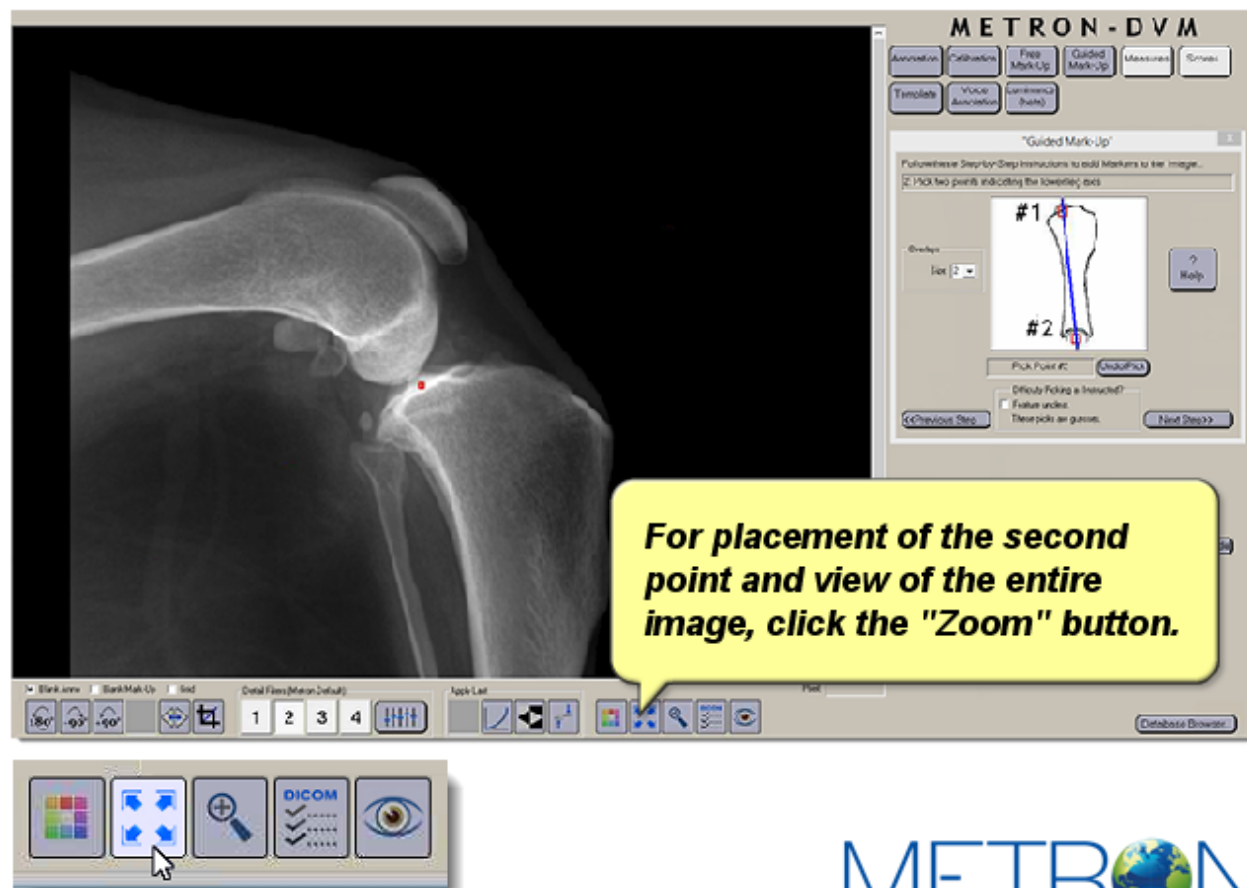
"Lower Leg Axis"

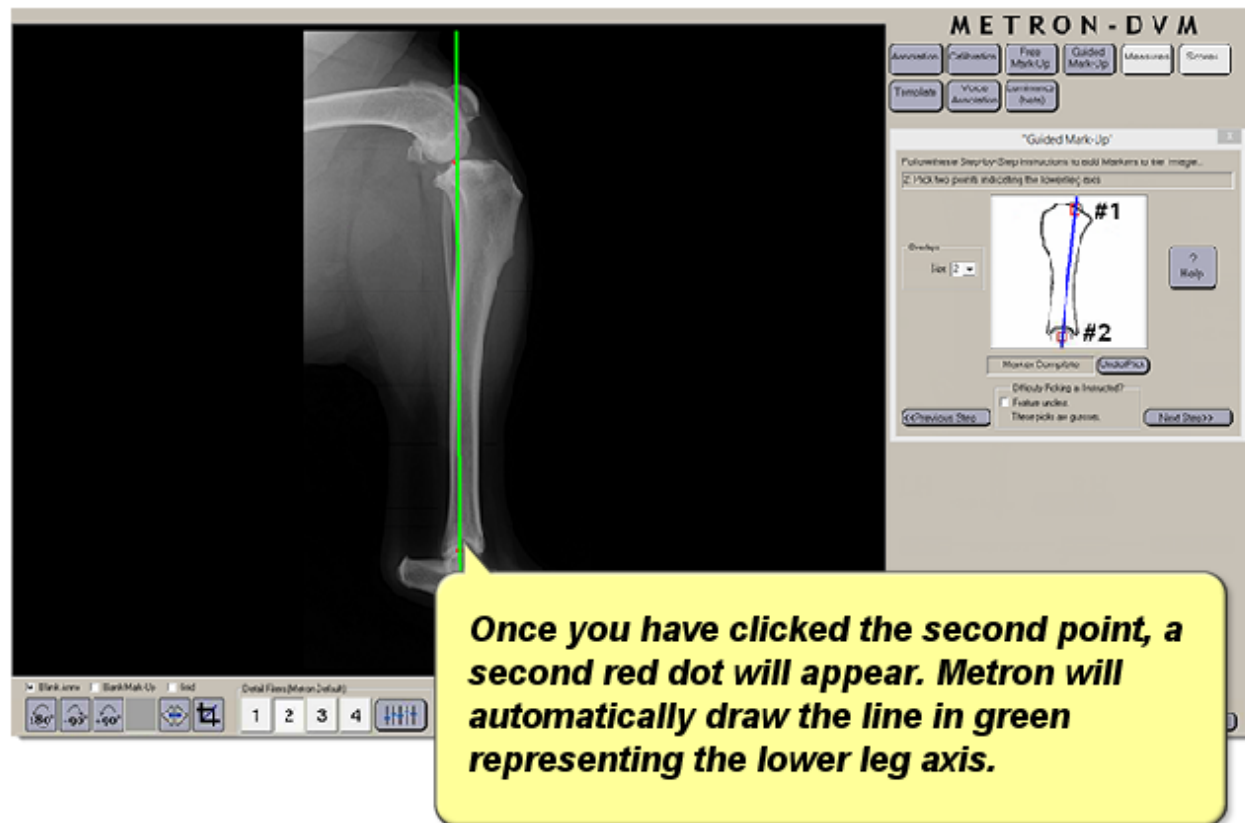
This will provide the distance of the lower leg between two points.

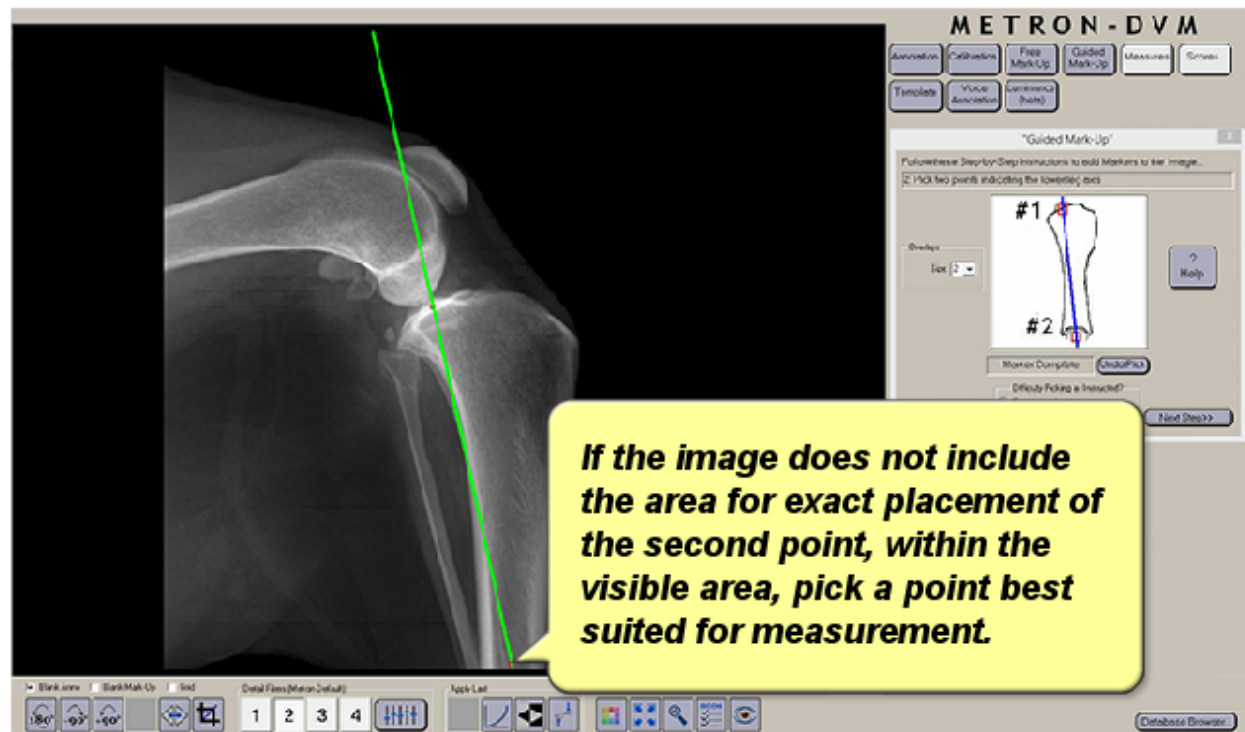
Point #1 is at the base of the intratrochanteric eminences.

Point #2 is at the center of the talus articulation.

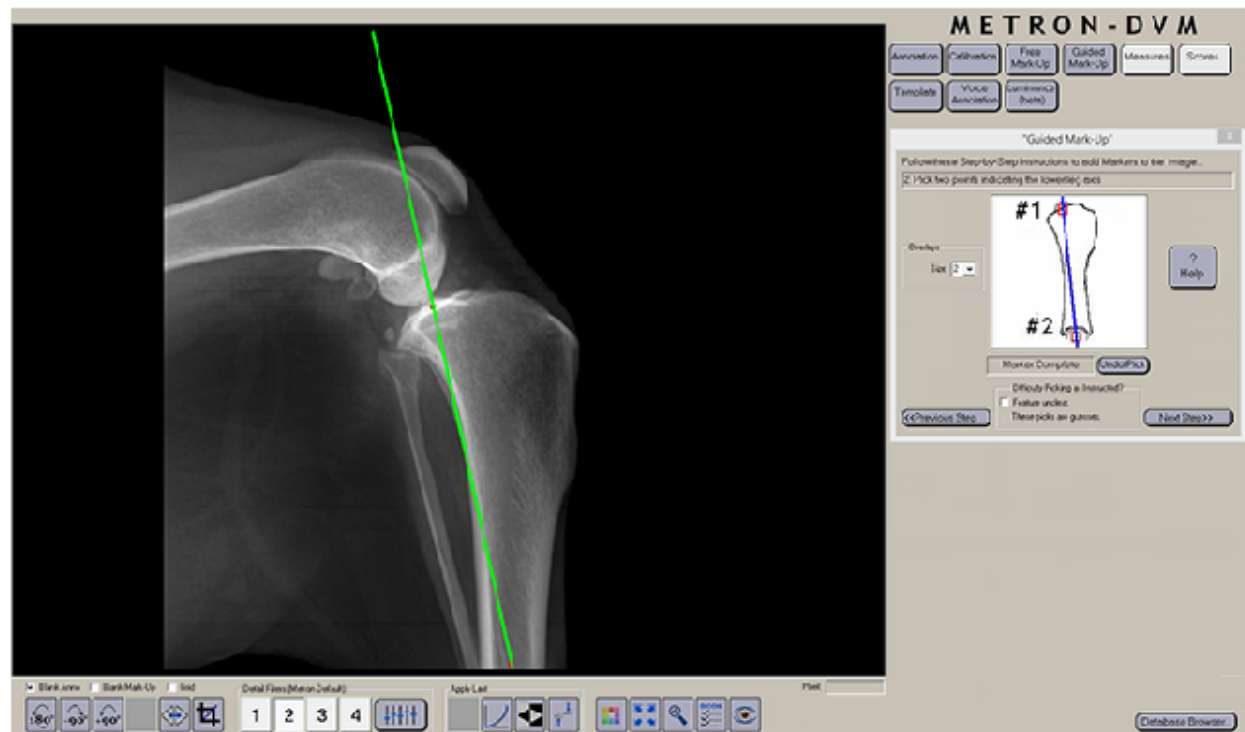






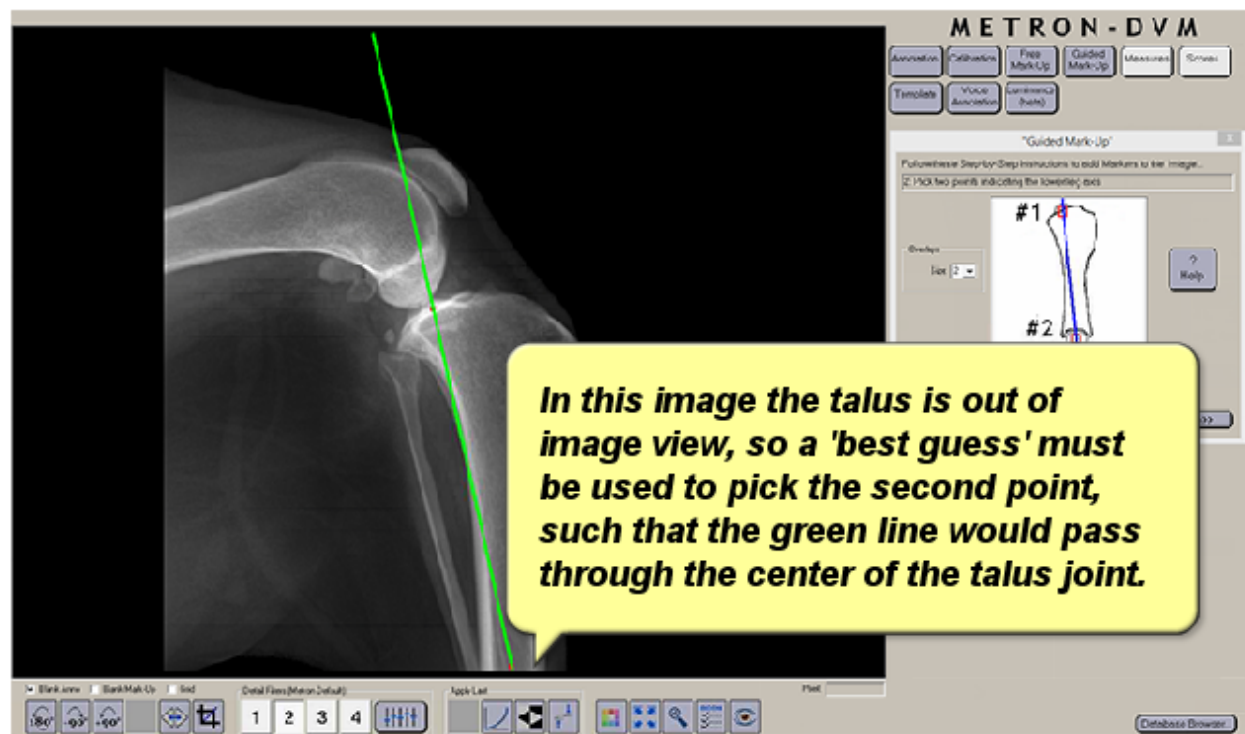


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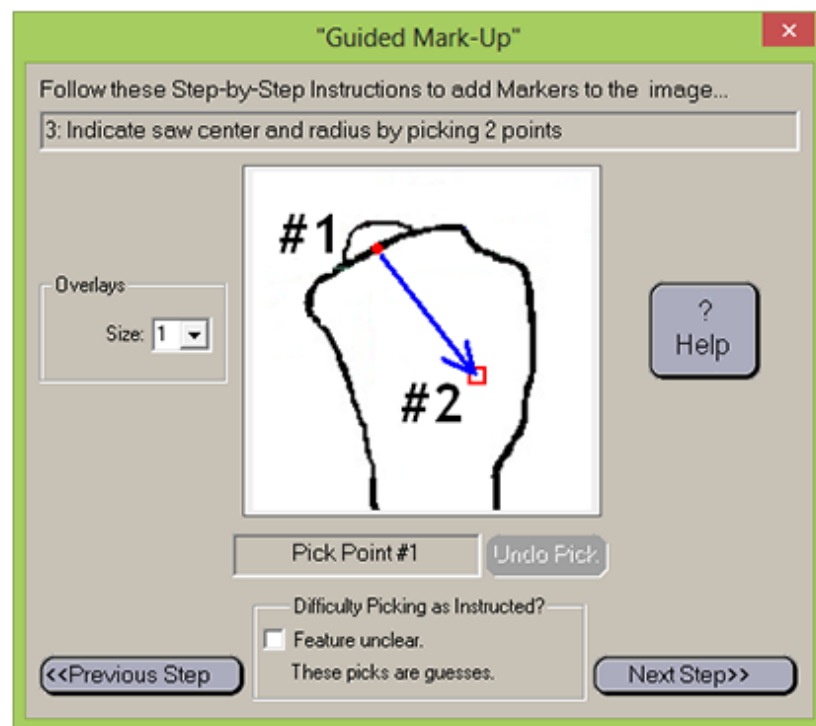


If at all possible, it is best to use images that have all of the of target points visible.

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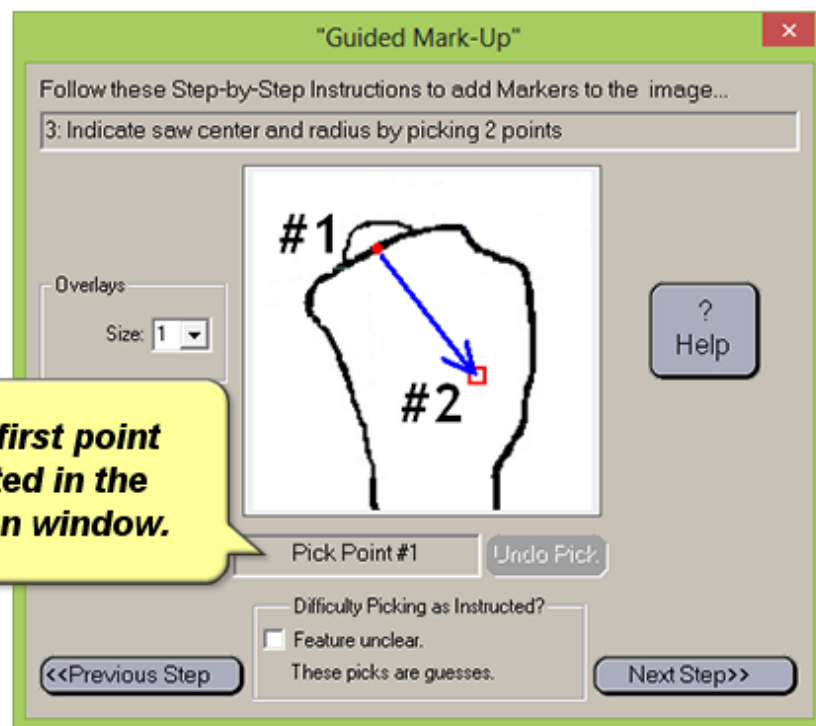


Step 3:
**"Saw Center
and Radius"**



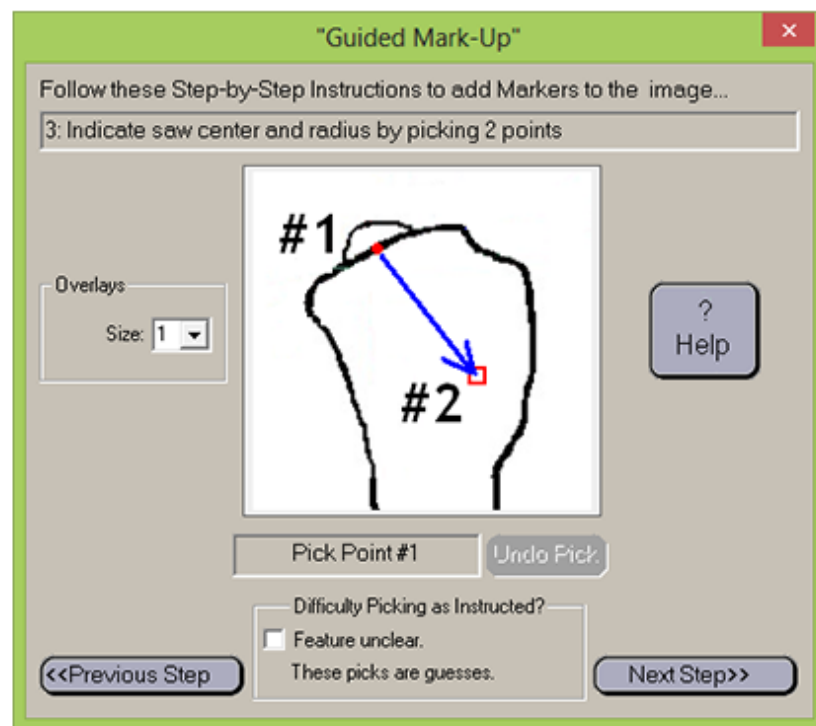
**Step 3:
"Saw Center
and Radius"**

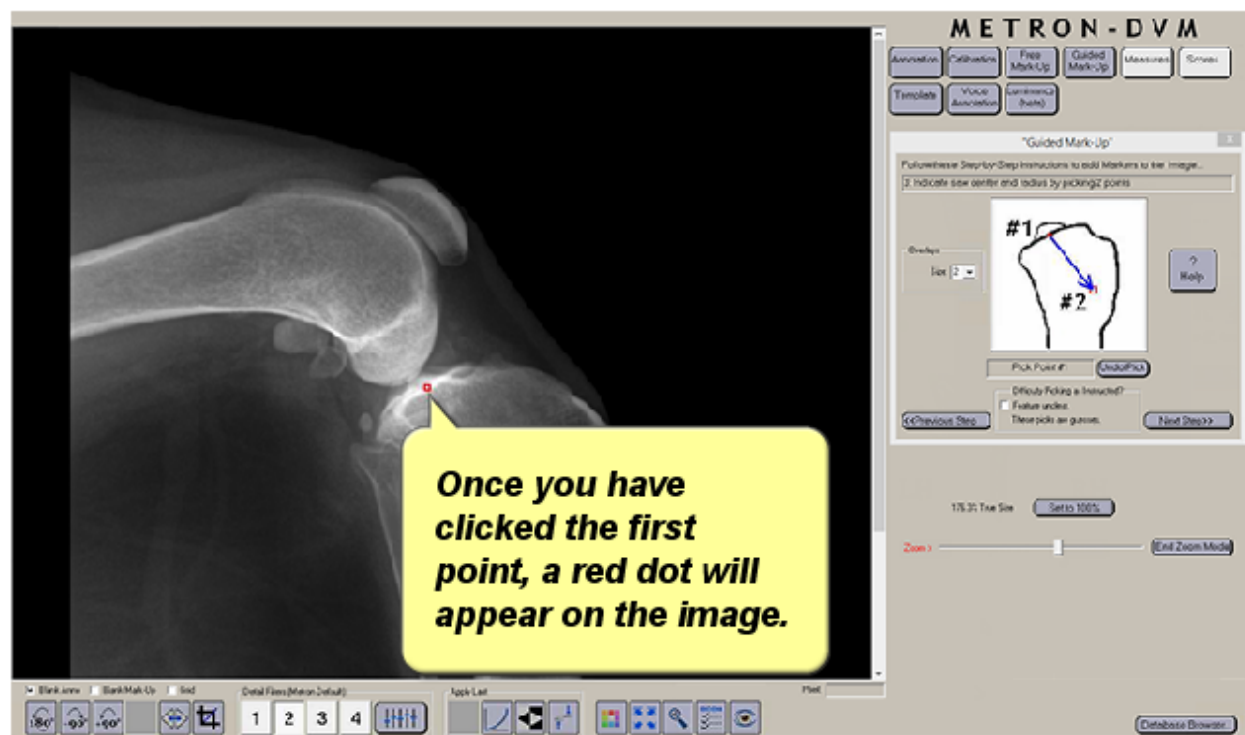
***Click the first point
as indicated in the
instruction window.***

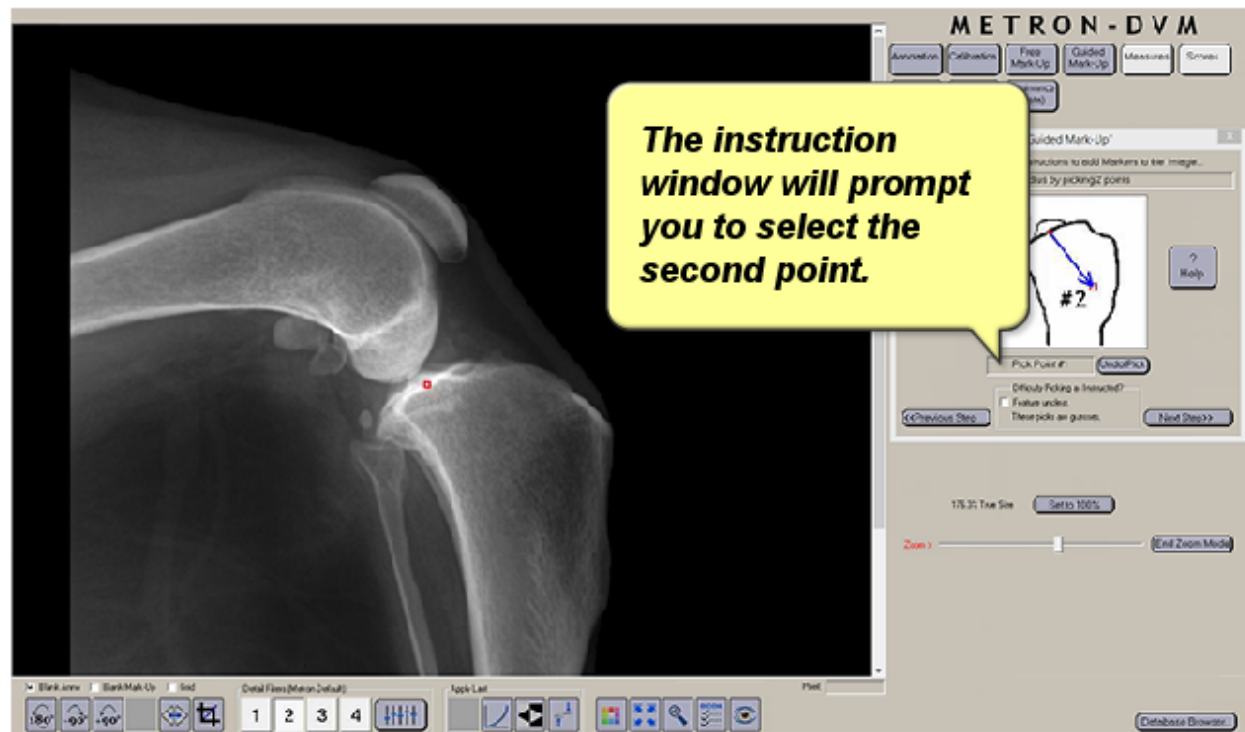


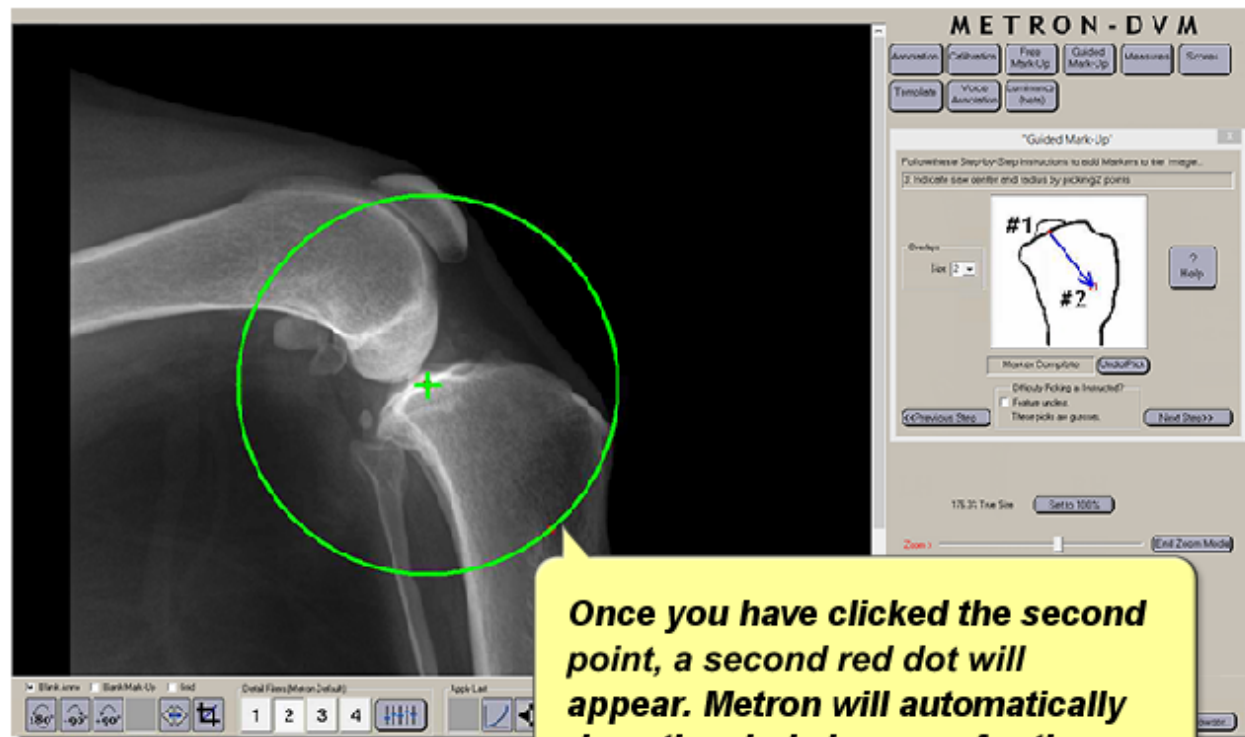
"Saw Center and Radius"

The **"Saw Center and Radius"** step has you pick two points to indicate the desired center of the saw and the desired radius of the saw.





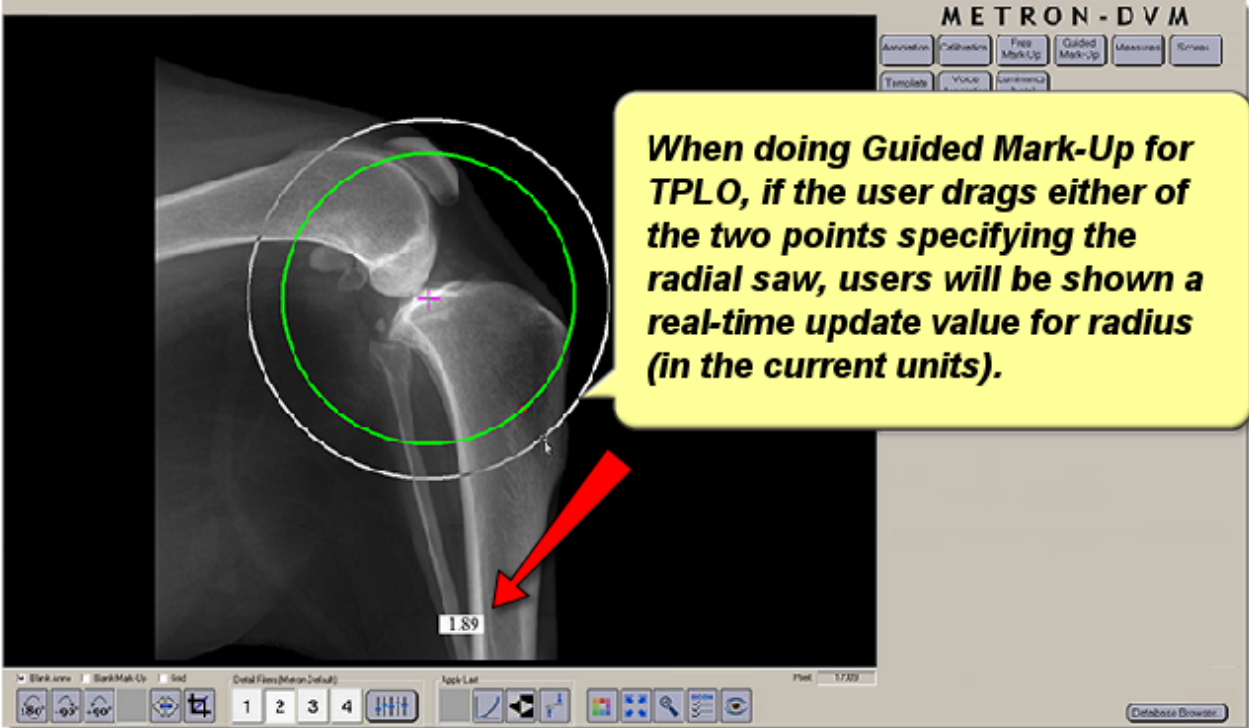




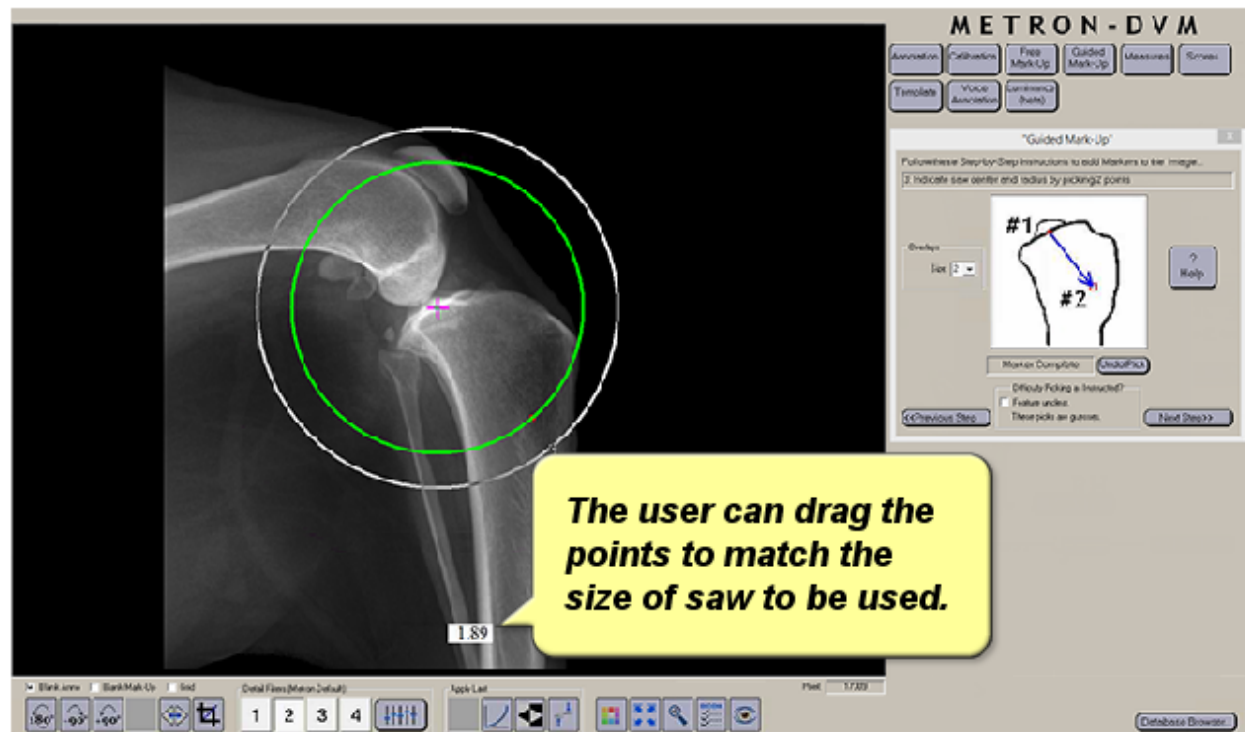
Once you have clicked the second point, a second red dot will appear. Metron will automatically draw the circle in green for the "Saw Center and Radius".

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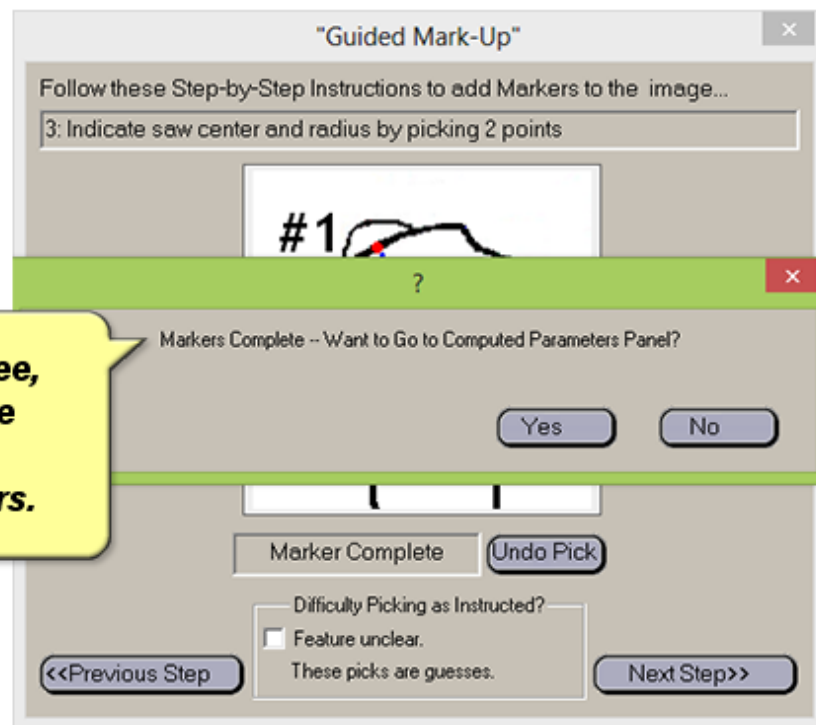
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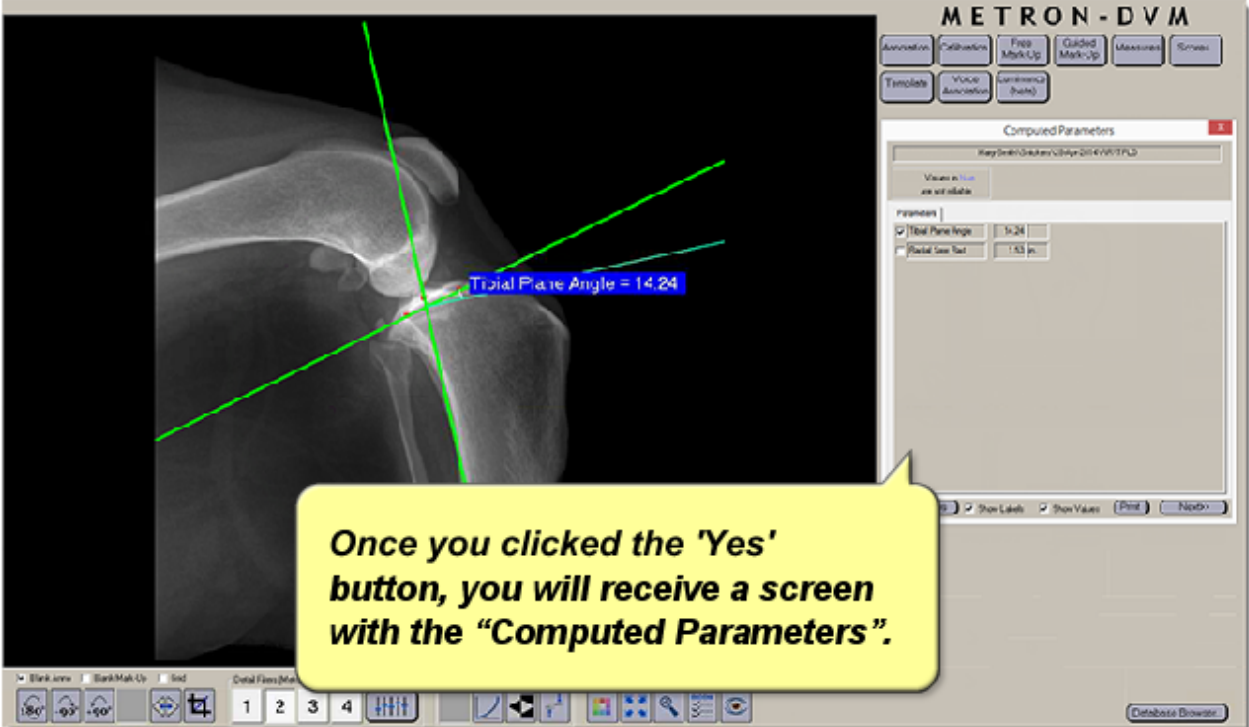


After finishing step three, you are asked if you are ready to have Metron calculate the parameters.



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Once you clicked the 'Yes' button, you will receive a screen with the "Computed Parameters".

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Select the check box to the left of any of the parameters and the related mark-up will be shown on the image.

Computed Parameters

Myr Smith Snickers Ltd Apr 2014 - RALPLU

Values in blue are not reliable

Parameters

☒	Tibial Plane Angle	14.24
☒	Radial Saw Rot	1.03 in.

<<Previous ☒ Show Labels ☒ Show Values Print Next>>

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Our analysis computes two values. The first is the **Tibial Plane Angle**. The larger this angle, the more likely that the TPLO surgery would benefit the animal.

The second parameter is the **diameter of the saw**. Remember you can use Metric units from the Metron Main Menu bar by selecting "**Preferences**" then choosing "**General**".

Parameters	
☒ Tibial Plane Angle	14.24
☒ Radial Saw Rot	1.03 in.

Guided Mark-Up: TPLO Analysis | Canine

Our analysis computes two values. The first is the **Tibial Plane Angle**. The larger this angle, the more likely that the TPLO surgery would benefit the animal.

The second parameter is the **diameter of the saw**. Remember you can use Metric units from the Metron Main Menu bar by selecting "**Preferences**" then choosing "**General**".

Parameters	
☒ Tibial Plane Angle	14.24
☒ Radial Saw Rot	1.03 in.

You are brought next to the “Computed Parameters and Rule-Based Scoring” that shows the scores for this stifle.

Computed Parameters and Rule-Based Scoring

May Smith/Studies/284m-2014/BB/TPLO

Rule: TPLO Load Rule Save Rule Delete Rule

Parameters

Parameter Name	Value	Best when...	Importance
Tibial Plane Angle	14.24	At Most 15.000	High Edit...
Partial Saw Red	1.53 in	Any Value is OK	None Edit...

←PREVIOUS Highlight Loss C % Score 100.0 % Print

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For TPLO analysis, the purpose of the Metron's scoring system is to highlight when the Tibial Plane angle is greater than 15 degrees, and the TPLO surgery may be beneficial.

If you don't agree with the value of 15 degrees, you can edit the scoring rule by clicking on the 'Edit...' button on the far right.

Computed Parameters and Rule-Based Scoring

May Smith/Support/V284m-2014/RR/TPLO

Rule: TPLO [Load Rule] [Save Rule] [Delete Rule]

Parameters

Parameter Name	Value	Best when...	Importance	
Tibial Plane Angle	14.24	At Most 15.000	High	Edit...
Partial Saw Feed	1.53	Any Value is OK	None	Edit...

<<PREVIOUS Highlight Loss C % Score 100.0 % PRINT



Guided Mark-Up in Metron: TPLO Analysis for Canine

This completes the "Guided Mark-Up in Metron: TPLO Analysis for Canine" online training. Please feel free to review it again or select another online training session to review.



Click F11 on your keyboard to minimize the browser screen
and click the window closed to exit this training session.

