



Guided Mark-Up in Metron: TTA-Ness 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: TTA-Ness Analysis for Canine

This online training session will provide you with the details of how to use
"Guided Mark-Up in Metron: TTA-Ness 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.

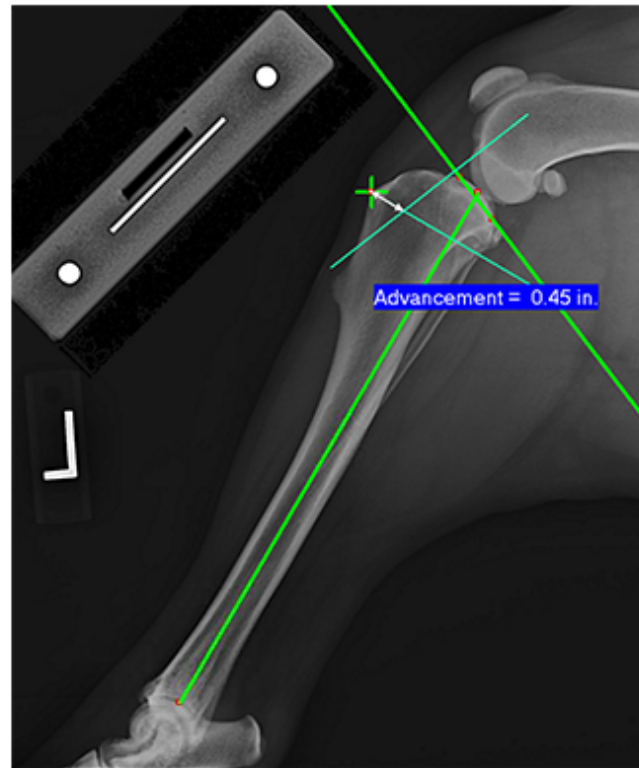
1

Guided Mark-Up: TTA-Ness 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 a properly positioned lateral canine stifle radiograph, and Metron then uses those picked points to compute important parameters of the TTA.

For best TTA-Ness analysis, it is important that you can see the Talus joint in the image, but the angle of the leg bend is not critical in this method developed by Dr. Ness.



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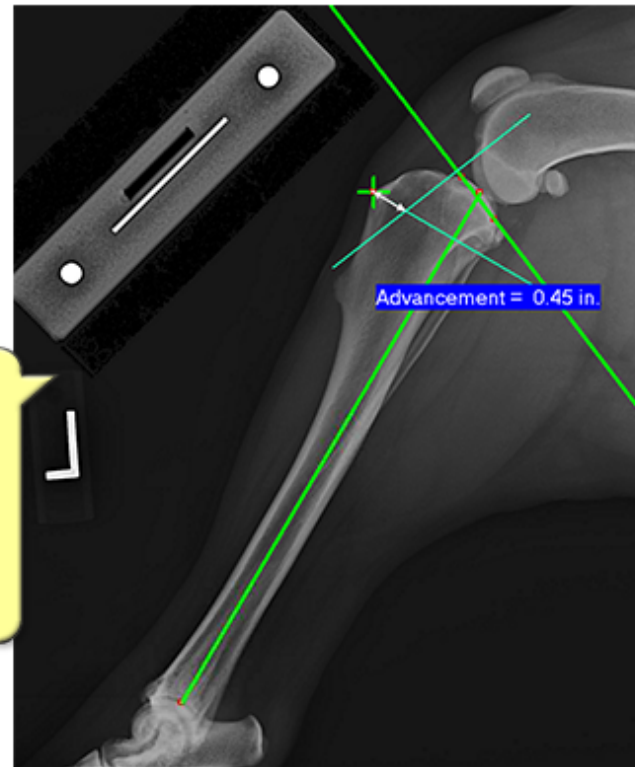
Guided Mark-Up: TTA-Ness Analysis | Canine

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A practitioner can use both the Ness method and/or the common tangent Lateral TTA technique based on personal preferences and comparison with the same image.



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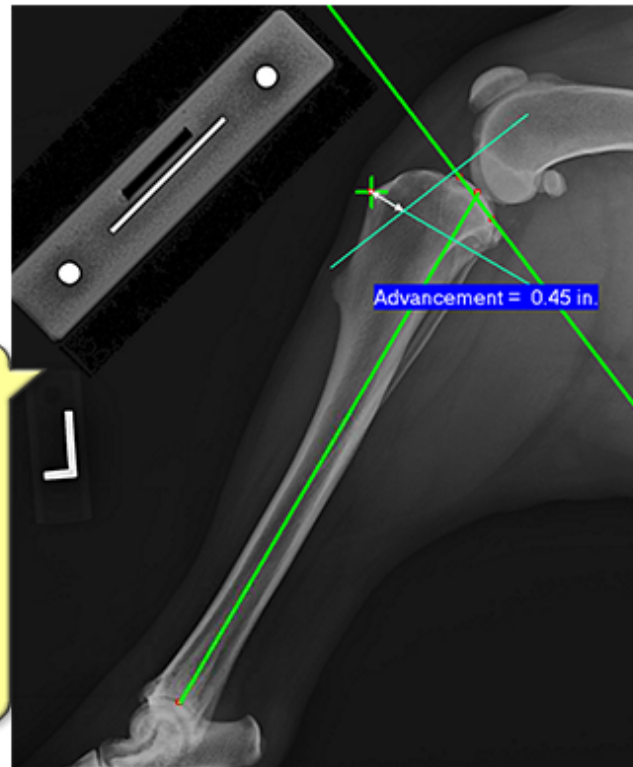
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For best TTA-Ness analysis, it is important that you can see the Talus joint in the image.

What is the Tibial Tuberosity Advancement (TTA) Analysis?
The Ness method is 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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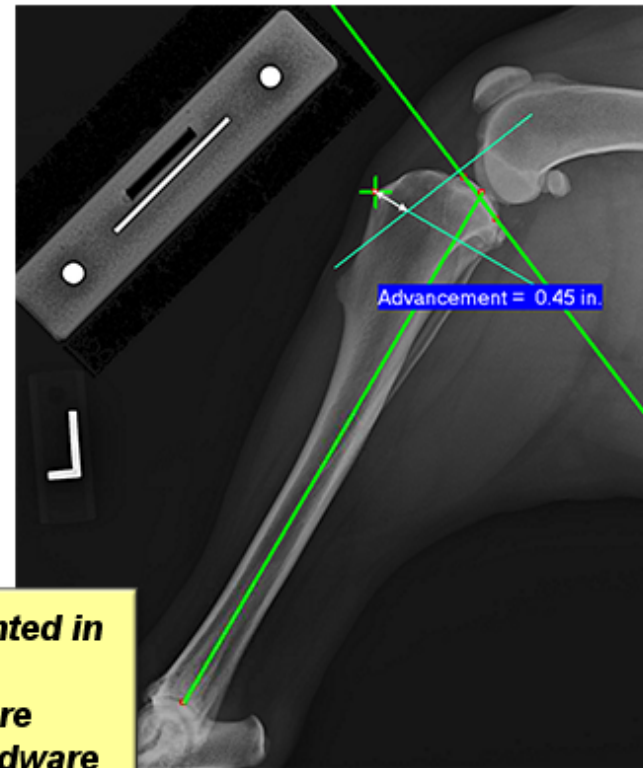
3

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For best TTA-Ness analysis, it is important that you can see the Talus joint in the image, but it is **not** important at all about the angle of the leg bend.



This guided mark-up procedure implemented in Metron is based on the recommended procedure as developed by Kyon, Inc. More about the procedure and the required hardware can be learned by visiting www.kyon.ch.

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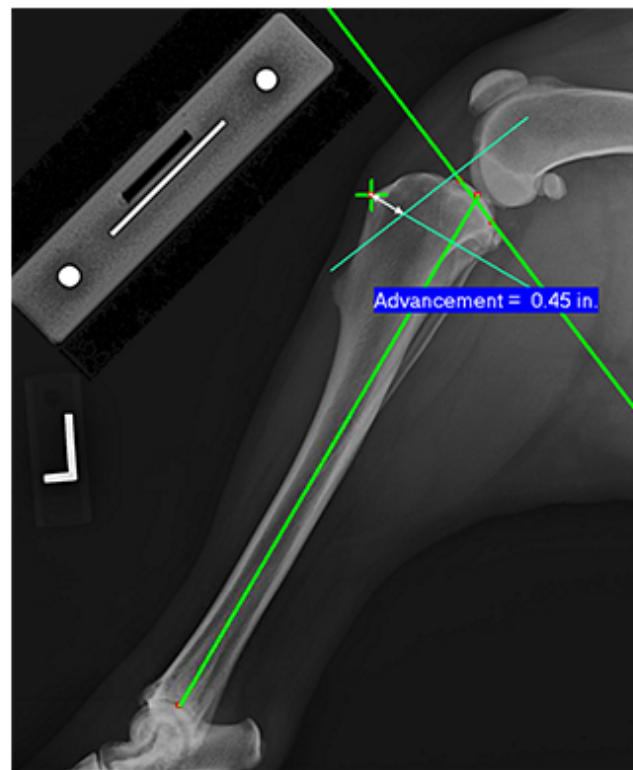
4

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What is Guided Mark-Up?

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Guided Mark-Up: TTA-Ness Analysis | Canine



The screenshot displays the Metron Database Browser software interface. On the left, a grid of ten X-ray thumbnails is shown, each with a label and a green status icon. The labels include: RH Pelvis DAR, LF LowerLimb Lateral, R Abdomen Lateral, LH Stifle Lateral-TTA, RH Stifle Lateral-TPLO, LH Pelvis VD, R Abdomen Lateral, R Thorax Lateral, RH Stifle Lateral-TPLO, and LH Stifle Lateral-TTA-Ne. On the right, the 'DATABASE BROWSER' panel contains search filters for Owner (Bob Miller), Animal (Cooper), and Date (9-Apr-2014). It also features buttons for 'Browse & Acquire', 'Collection (0 items)', and 'Add New Image, Video Clip, Form, or Report'. A 'Select Items' section at the bottom right includes buttons for 'All', 'Next Region', and 'None', along with various action icons like 'Image File(s)...', 'USB Video...', 'Receive Images...', 'Add...', 'Worklist...', 'DICOM Q/R...', and 'Exit'. A red text prompt at the bottom of the panel reads 'Double-click a thumbnail to view'.

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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Guided Mark-Up: TTA-Ness Analysis | Canine

The screenshot displays the Metron software interface. On the left, a grid of ten X-ray thumbnails is shown, each with a label and a green status icon. The labels are: RH Pelvis DAR, LF LowerLimb Lateral, R Abdomen Lateral, LH Stifle Lateral-TTA, RH Stifle Lateral-TPLO, LH Pelvis VD, R Abdomen Lateral, R Thorax Lateral, RH Stifle Lateral-TPLO, and LH Stifle Lateral-TTA-Ne. On the right, the 'DATABASE BROWSER' panel is visible, featuring search filters for Owner (Bob Miller), Animal (Cooper), and Date (9-Apr-2014). It includes buttons for 'Browse & Acquire', 'Collection (0 items)', 'Reset Collection', 'Add to Collection', and 'All Dates Collection'. Below these are buttons for 'Add New Image, Video Clip, Form, or Report', including 'Image File(s)...', 'USB Video...', 'Receive Images...', 'Add...', 'Worklist...', and 'DICOM Q/R...'. At the bottom of the panel are 'Select Items' buttons (All, Next Region, None) and a grid of action icons (delete, download, print, copy, paste, etc.). A red text prompt at the bottom of the panel reads 'Double-click a thumbnail to view'. An 'Exit' button is located at the bottom right of the panel.

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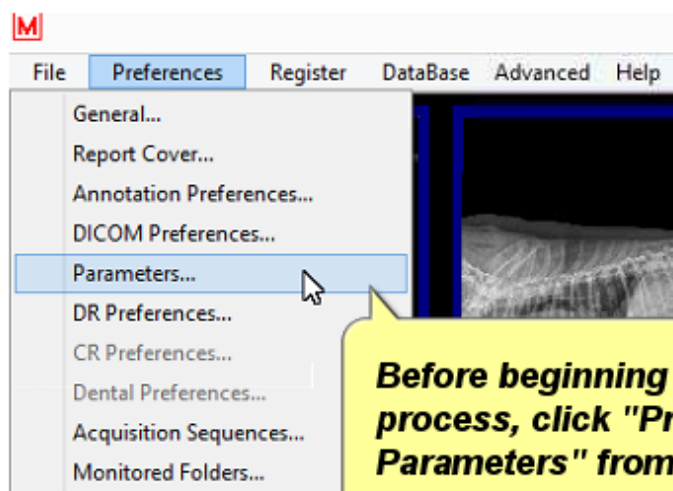
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Before beginning a Guided Mark-Up process, click "Preferences" then Parameters" from the Metron Database menu bar.

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

User Preferences

Parameter Display

Size: Photos: Radiographs: 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'

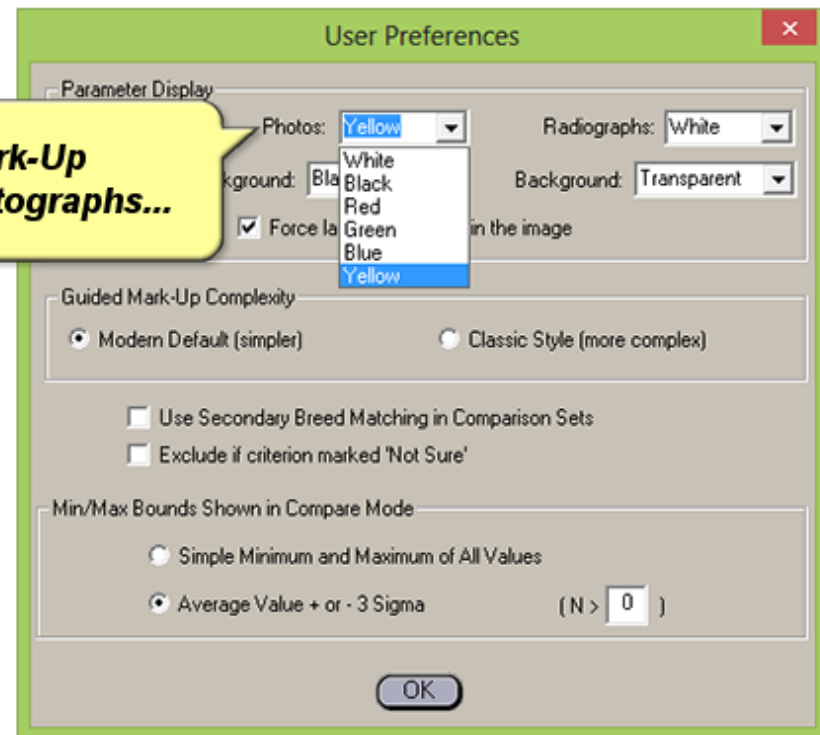
Min/Max Bounds Shown in Compare Mode

☐ Simple Minimum and Maximum of All Values

☒ Average Value + or - 3 Sigma (N >)

OK

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



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

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

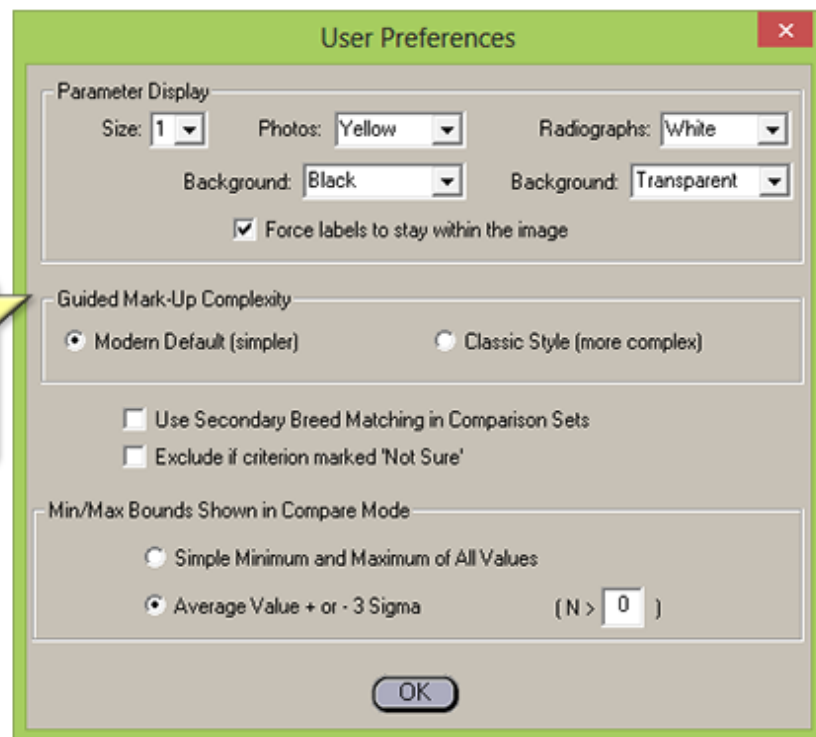
☒ Average Value + or - 3 Sigma (N > 0)

OK

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Guided Mark-Up: TTA-Ness Analysis | Canine

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



The image shows a 'User Preferences' dialog box with a green title bar and a red close button. It contains three main sections: 'Parameter Display', 'Guided Mark-Up Complexity', and 'Min/Max Bounds Shown in Compare Mode'. The 'Parameter Display' section has dropdown menus for 'Size' (set to 1), 'Photos' (set to Yellow), 'Radiographs' (set to White), and two 'Background' dropdowns (set to Black and Transparent). A checkbox 'Force labels to stay within the image' is checked. The 'Guided Mark-Up Complexity' section has two radio buttons: 'Modern Default (simpler)' (selected) and 'Classic Style (more complex)'. Below these 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). To the right of the second radio button is a text field '(N > 0)'. An 'OK' button is at the bottom center.

User Preferences

Parameter Display

Size: 1 Photos: Yellow Radiographs: White

Background: Black Background: Transparent

☒ 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

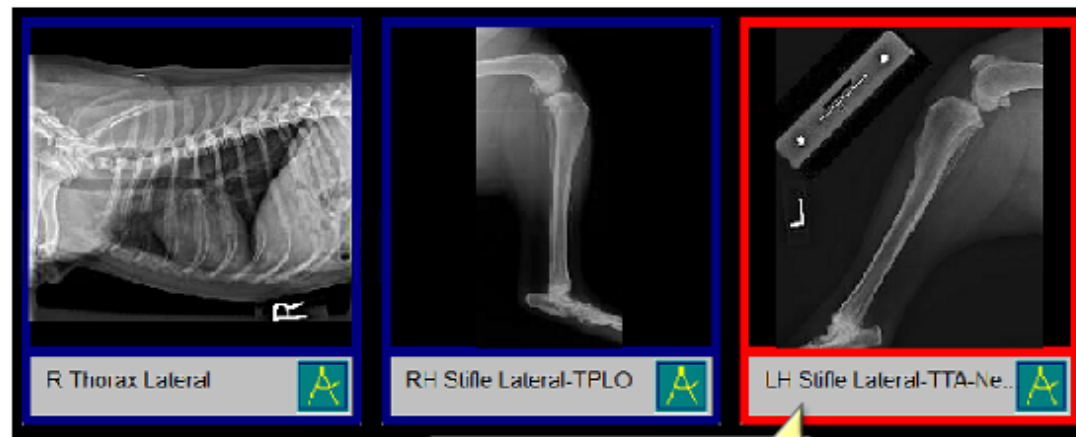
☐ Simple Minimum and Maximum of All Values

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

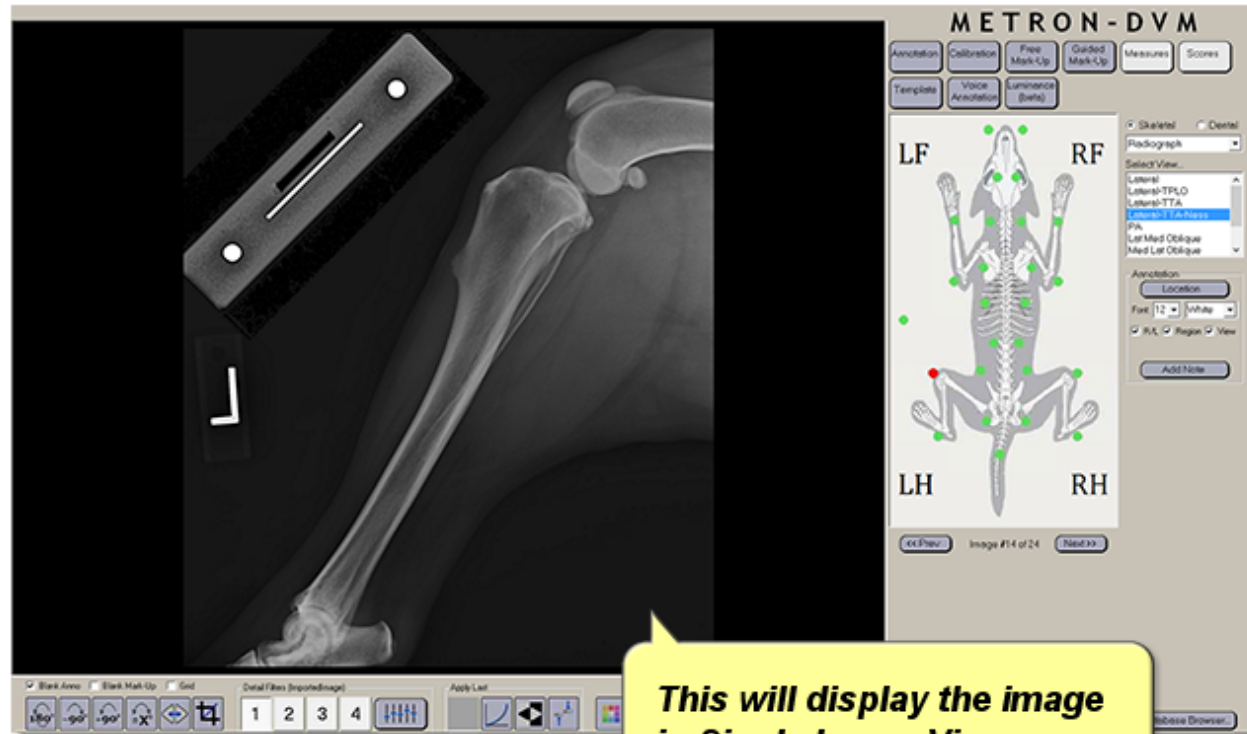
OK

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Guided Mark-Up: TTA-Ness Analysis | Canine

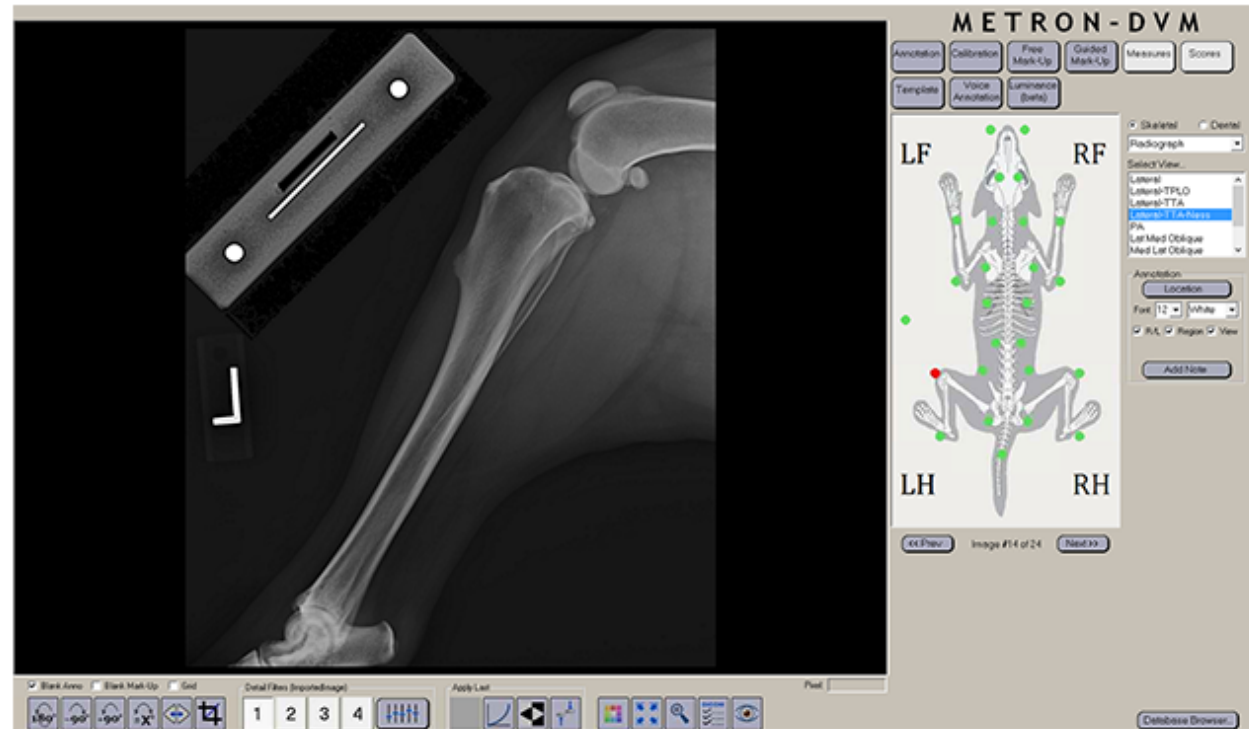


**Select an image by
double clicking on
that image.**

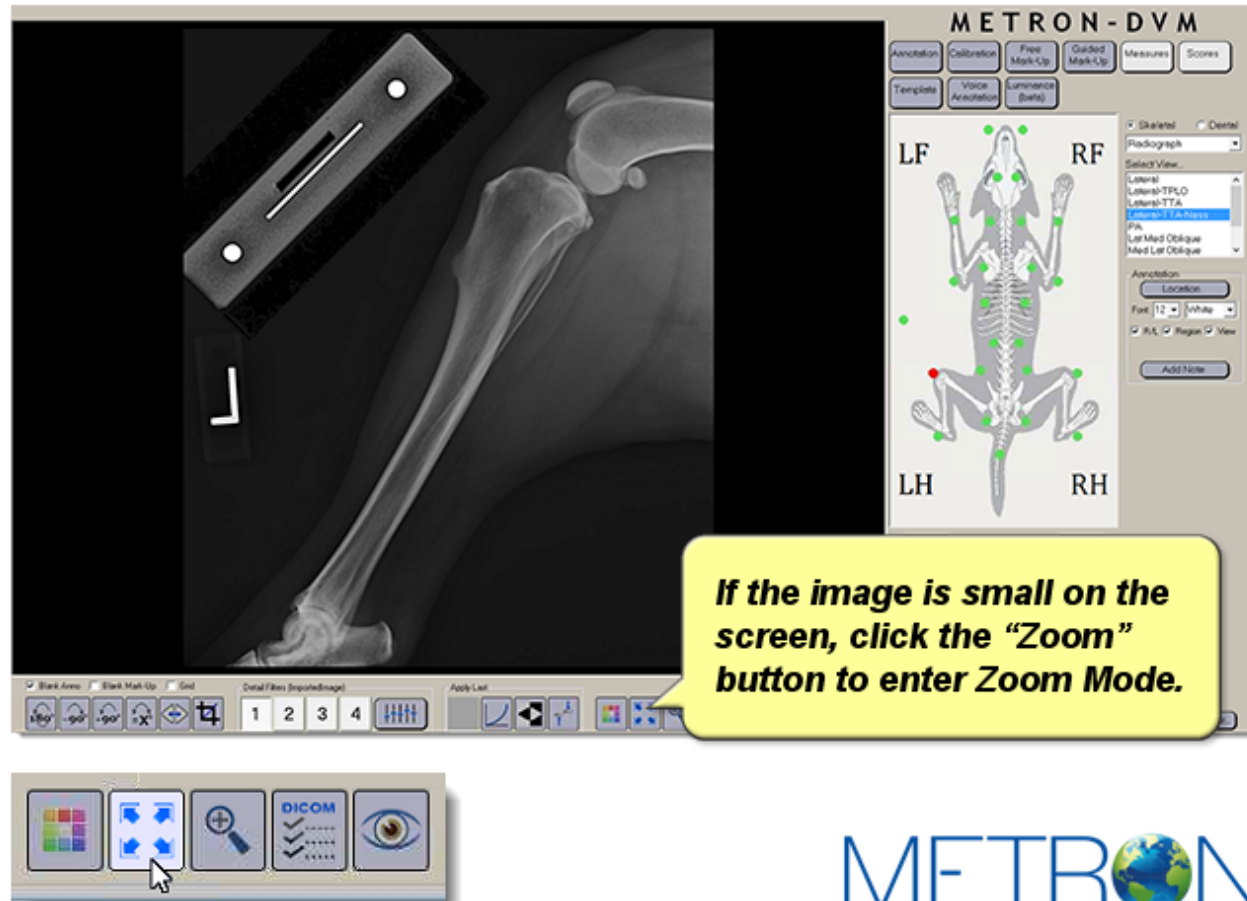


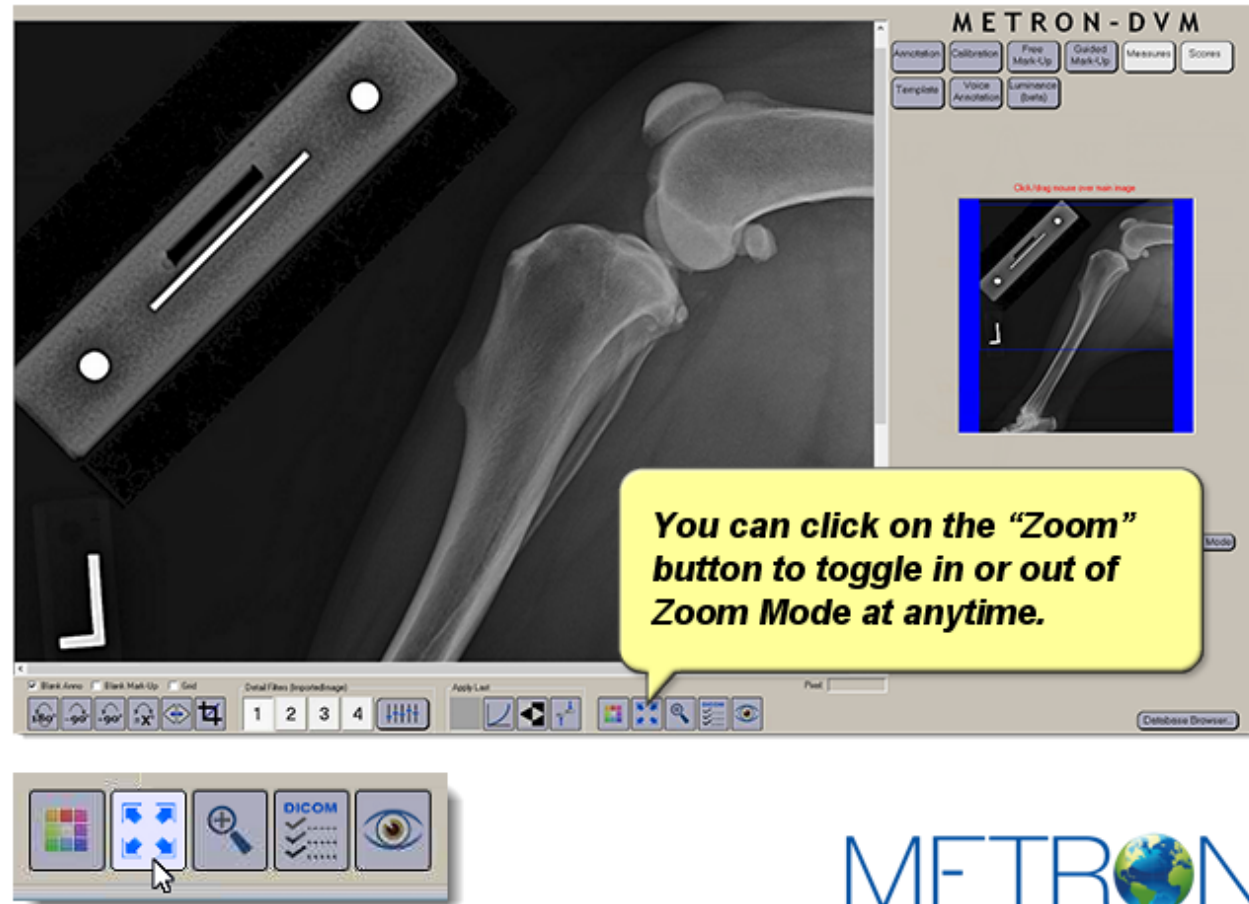
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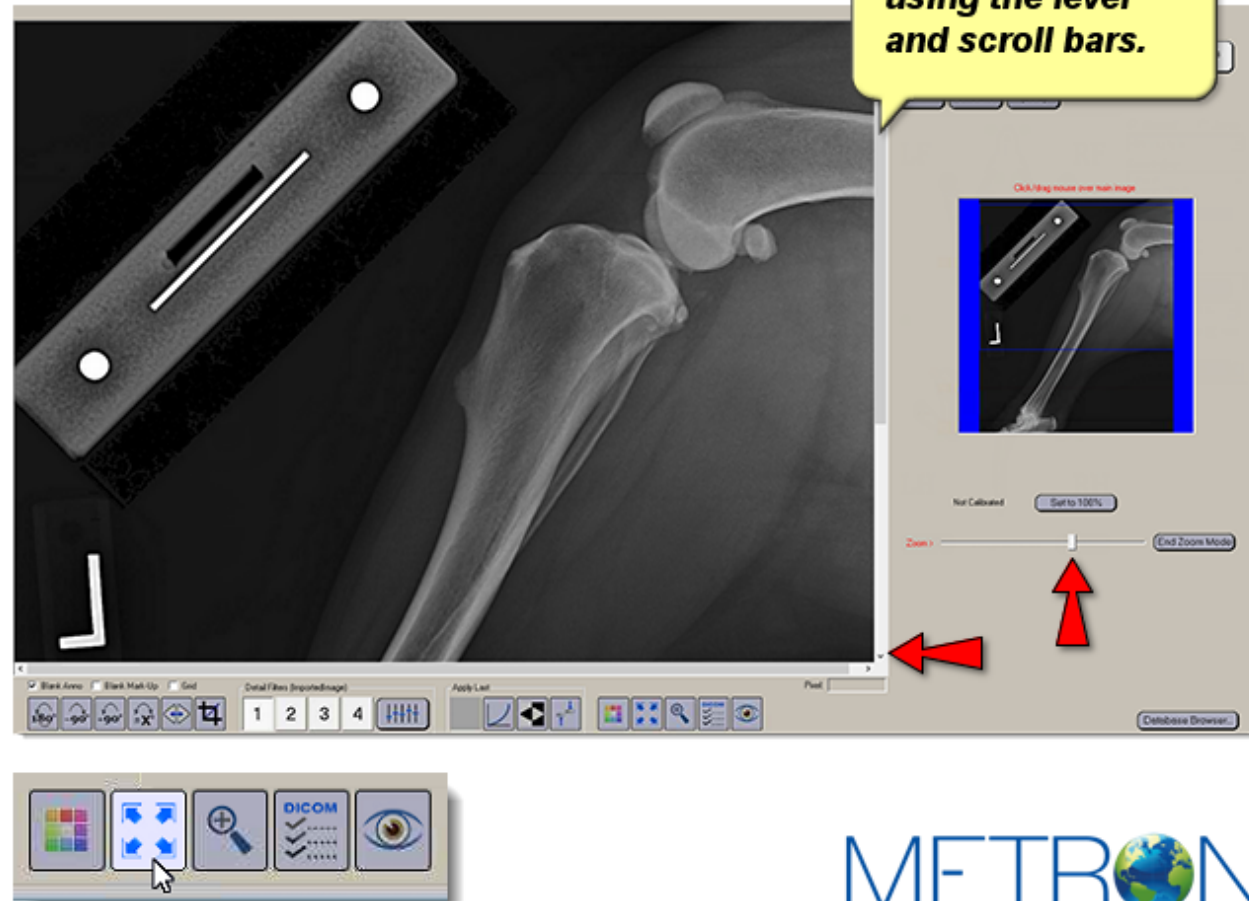




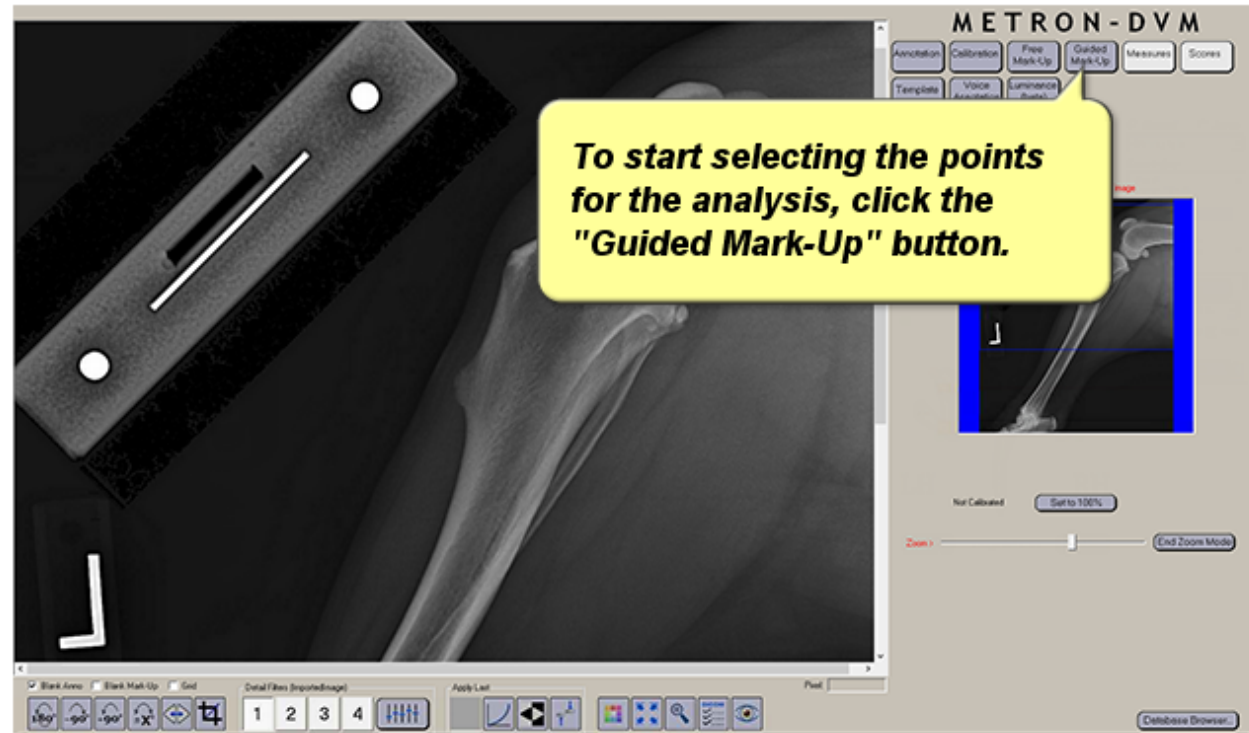
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Guided Mark-Up: TTA-Ness Ana

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

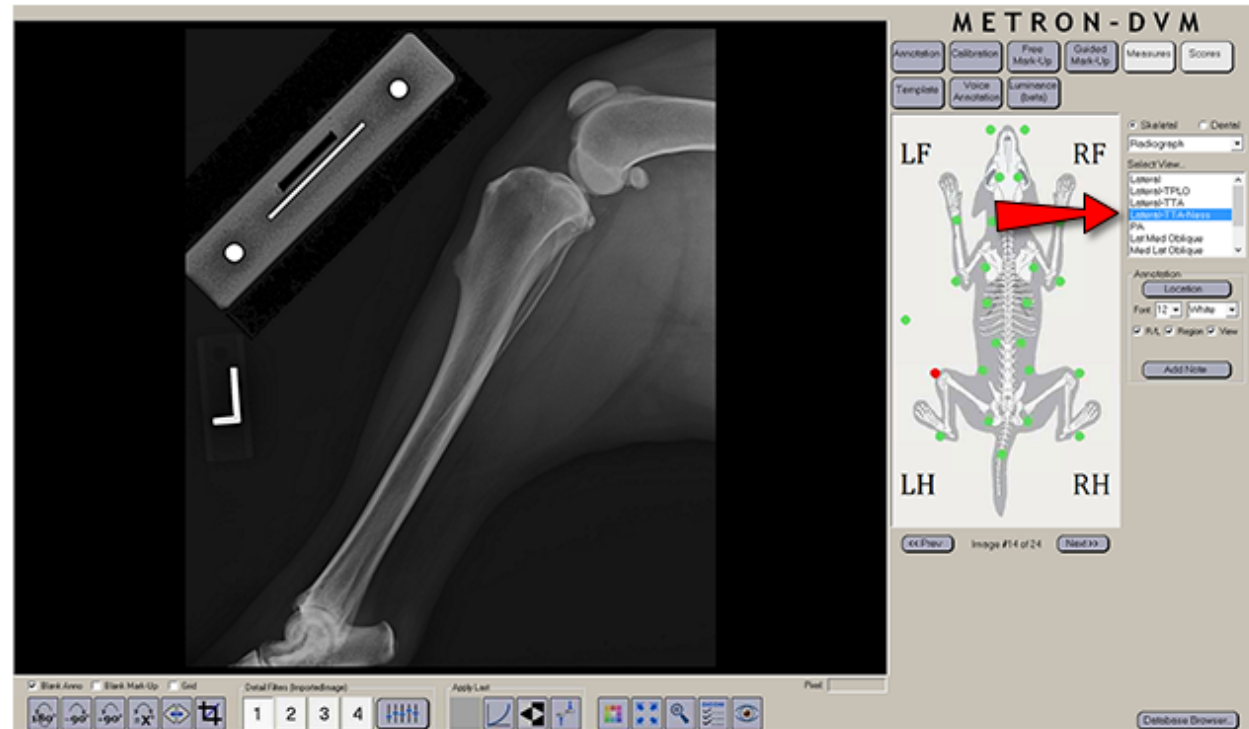


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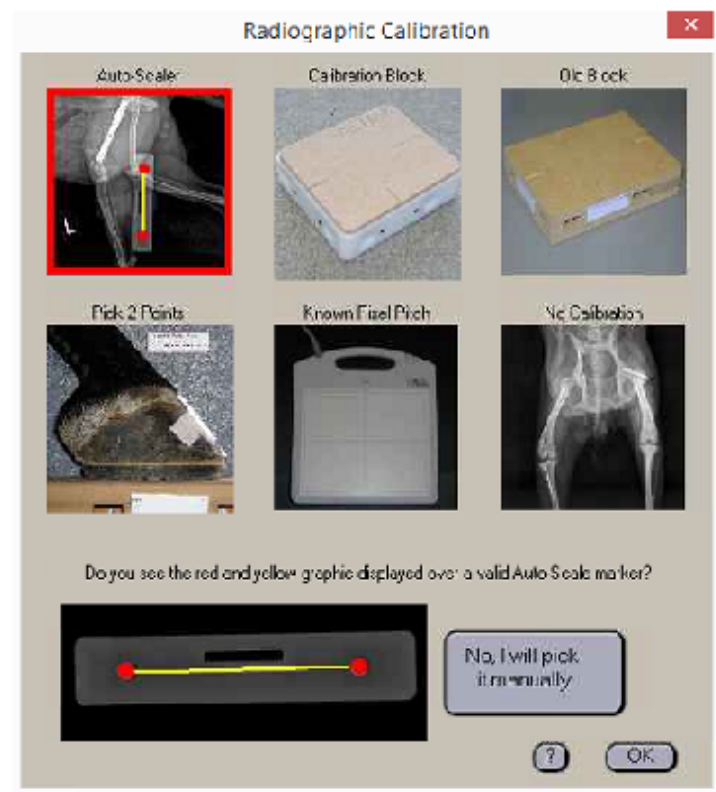




Guided Mark-Up steps you through marking key points on your image. When you click the "Guided Mark-Up" button and you have not previously calibrated this image, you will first be brought to the Calibration panel.

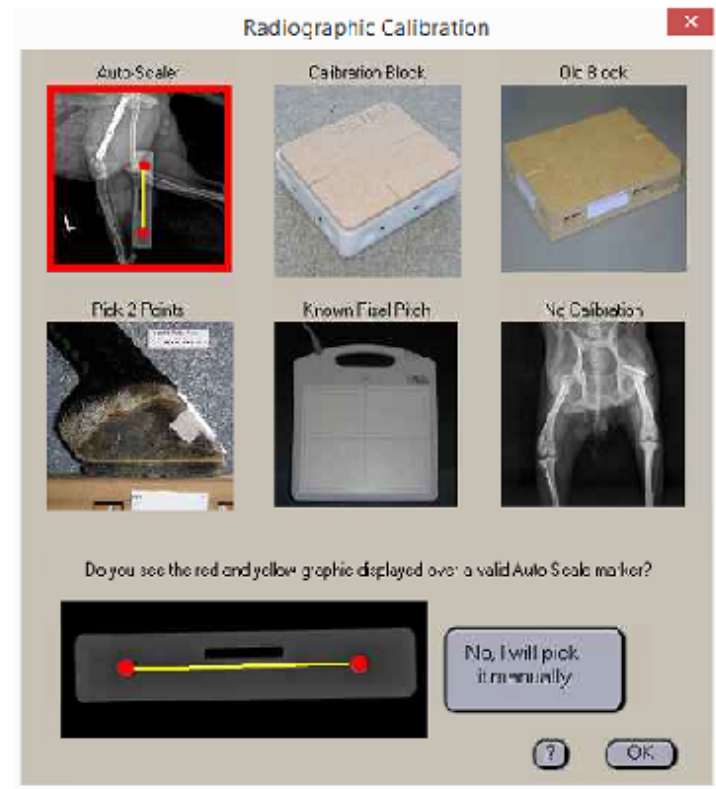


If the calibration panel pops up, and the image was taken with a CR or DR system controlled by Metron, the entries as shown to the right can be used to calibrate.



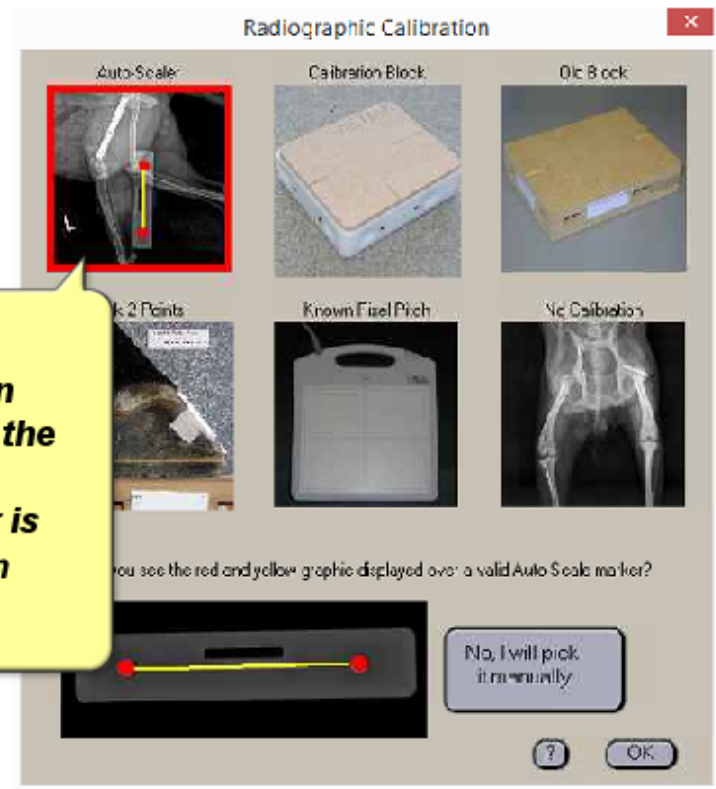
Guided Mark-Up: TTA-Ness Analysis | Canine

Careful calibration of the image is essential for TTA because the important result of the procedure is that a linear "advancement" value is calculated which helps you to size the hardware required. This value will only be accurate if the calibration is done properly.



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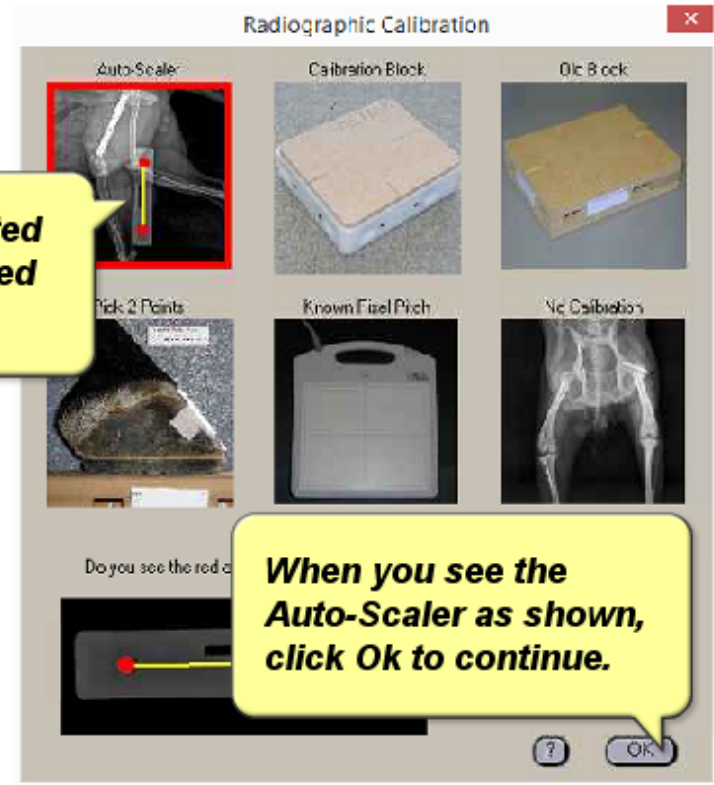
While there are several options available in the Metron calibration panel, we recommend the use of the 'Auto-Scaler' for ease of use and accuracy. Ideally the Auto-Scaler is placed adjacent to the stifle when the image is taken.



Guided Mark-Up: TTA-Ness Analysis | Canine

Careful calibration of the image is essential for TTA because the important result of the procedure is that a linear "advancement" value is calculated which helps you to size

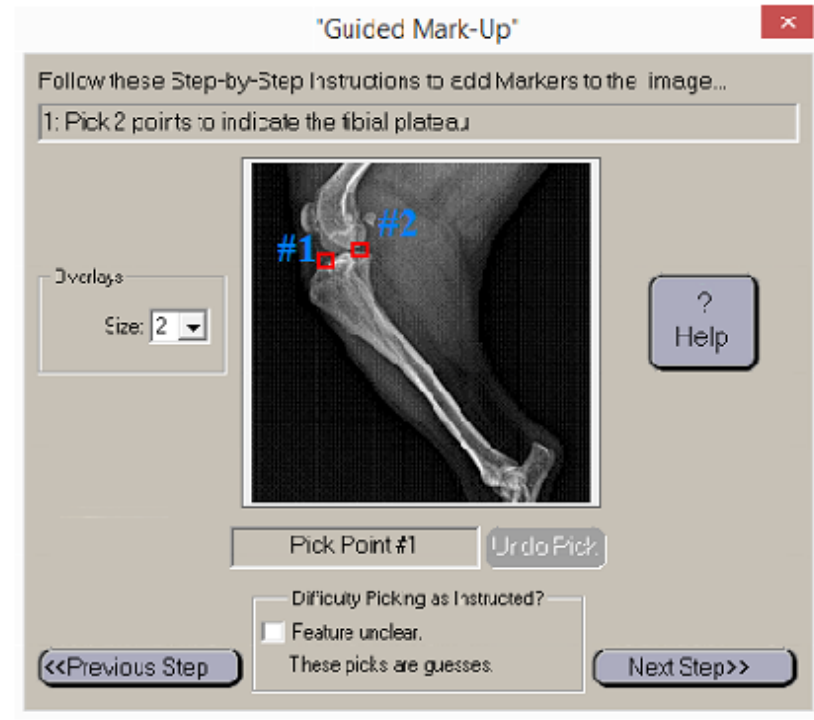
The image is automatically calibrated when the Metron Auto-Scaler is used in the image.



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

**Step 1:
"Tibial Plateau"**

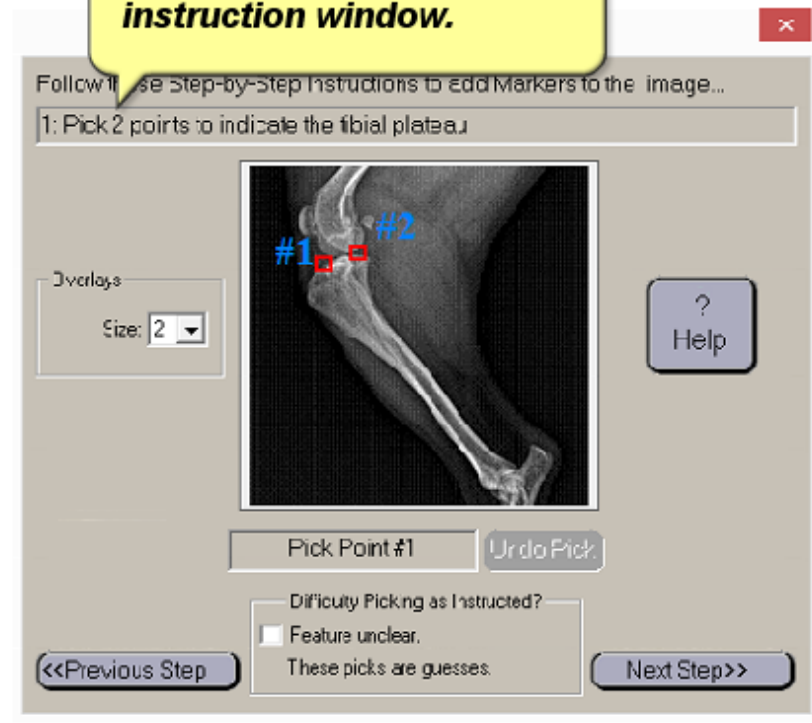


Guided Mark-Up: TTA Neck Analysis - Canine

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

Step 1: "Tibial Plateau"

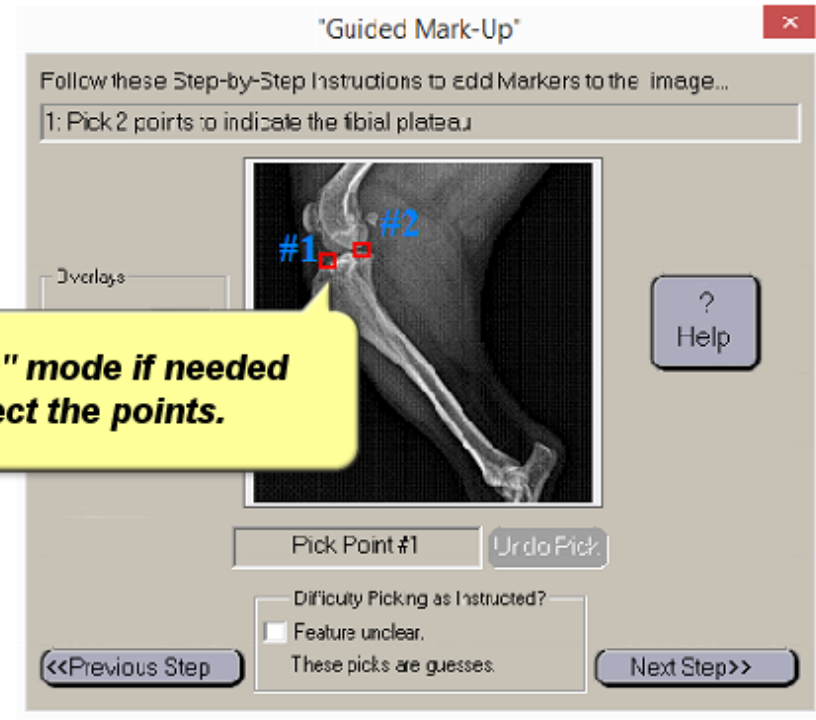
Pick two points on your image as indicated in the instruction window.

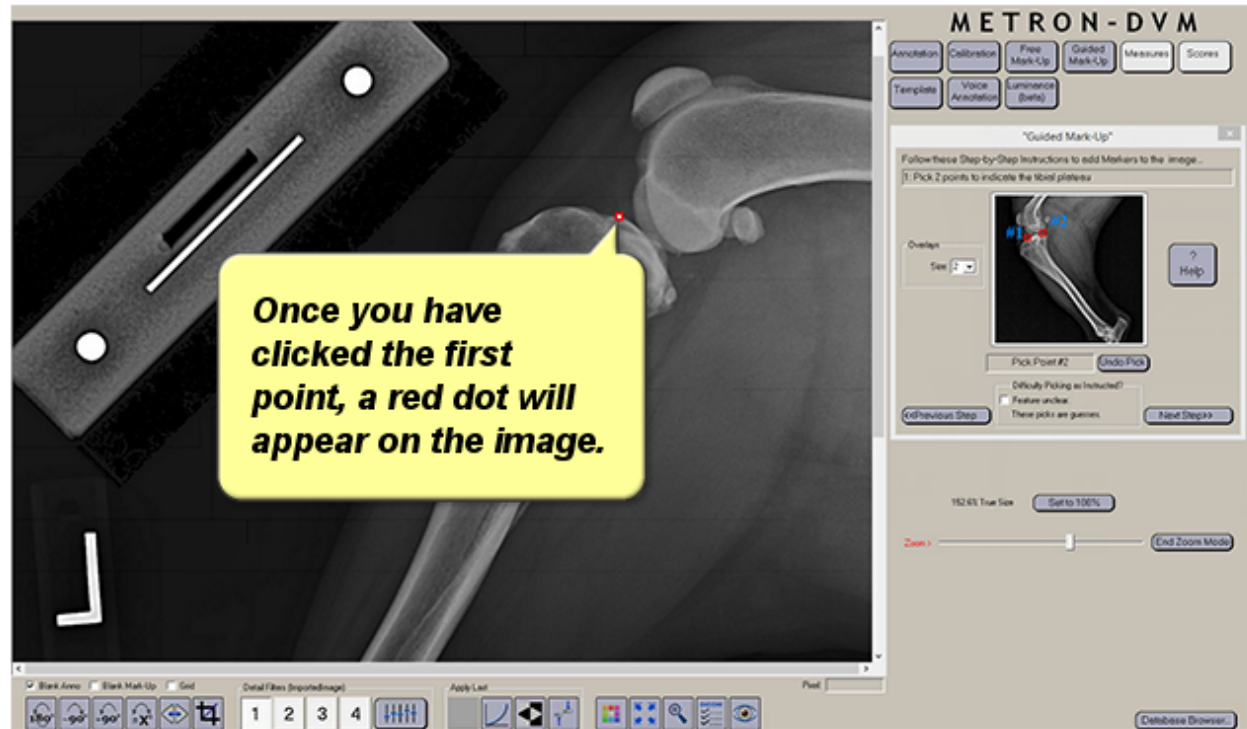


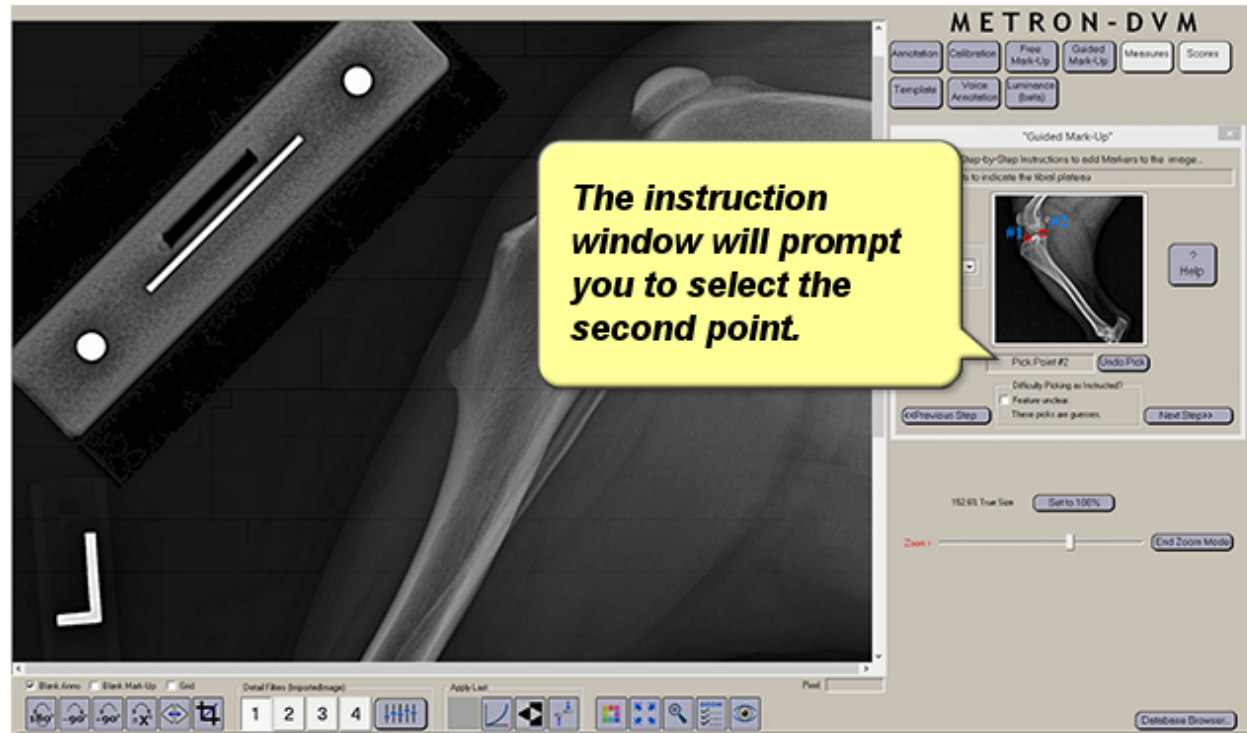
The following are the three mark-up steps as indicated on the instruction window.

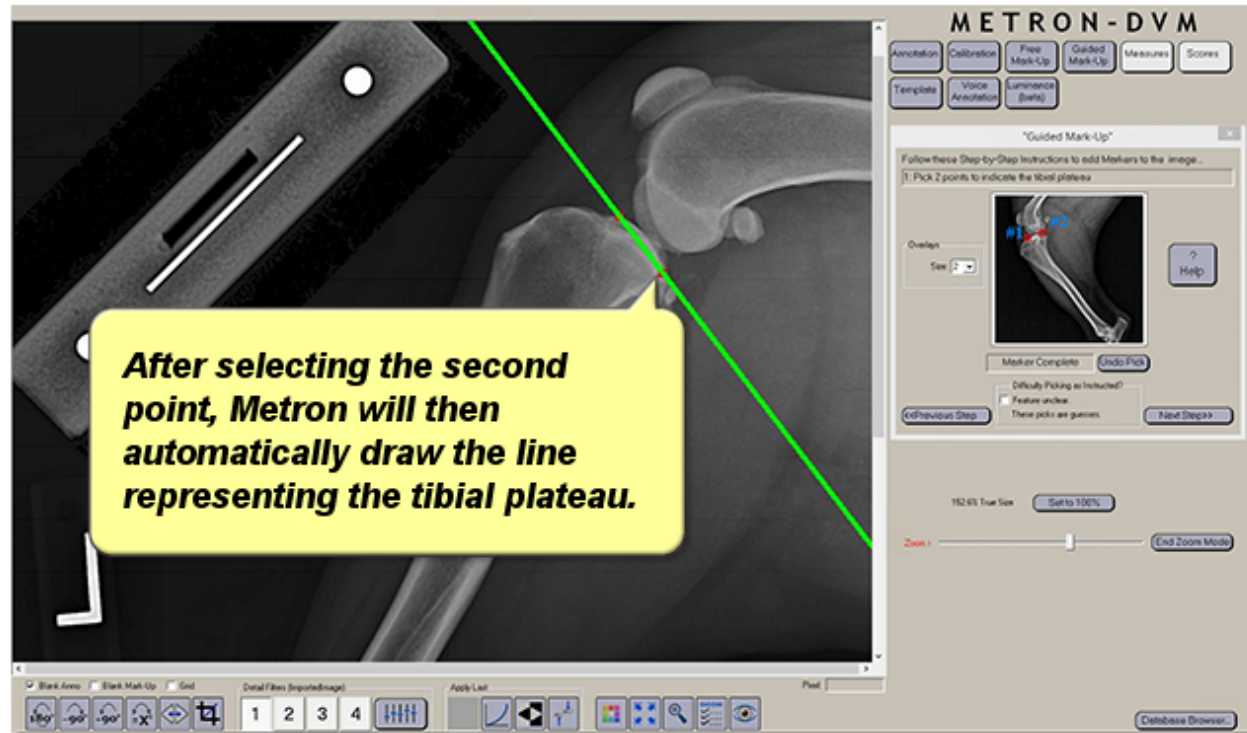
**Step 1:
"Tibial Plateau"**

*Use "Zoom" mode if needed
to best select the points.*

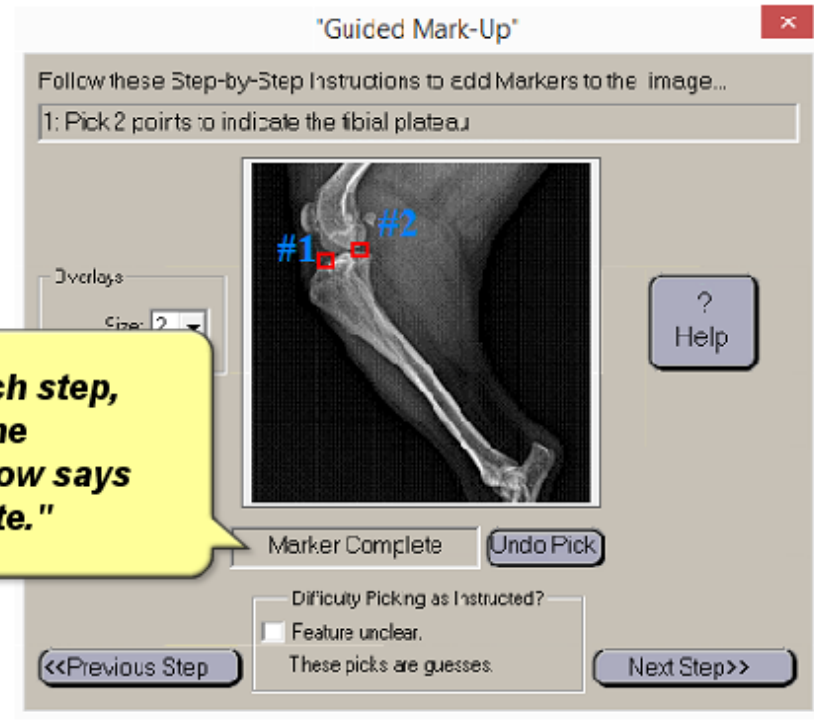


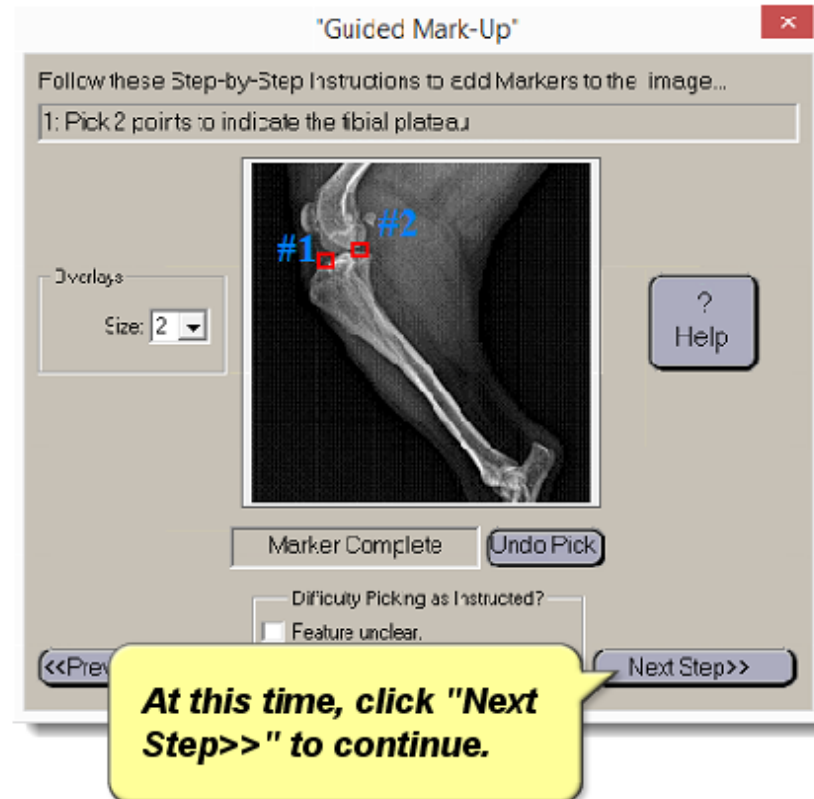




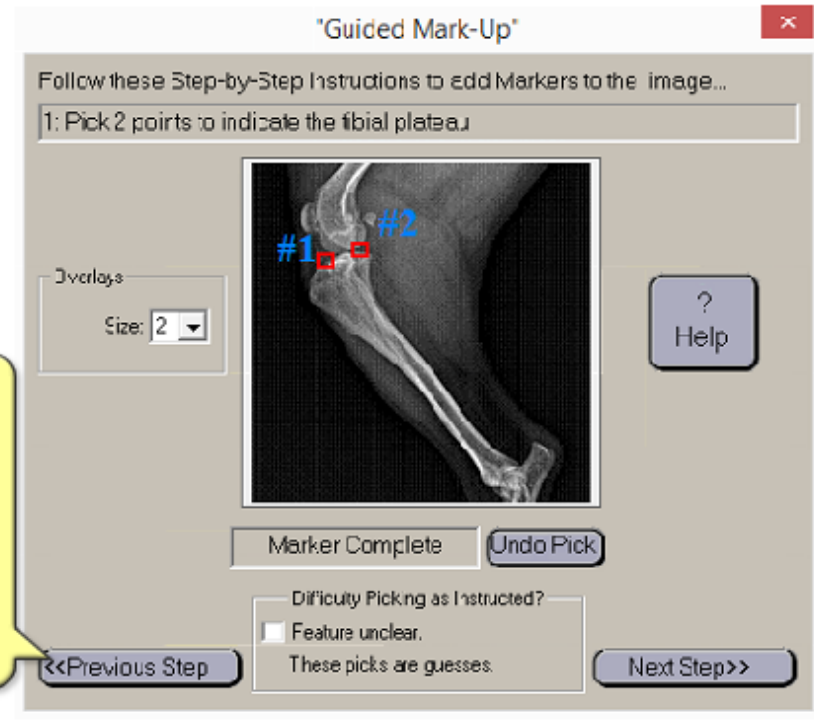


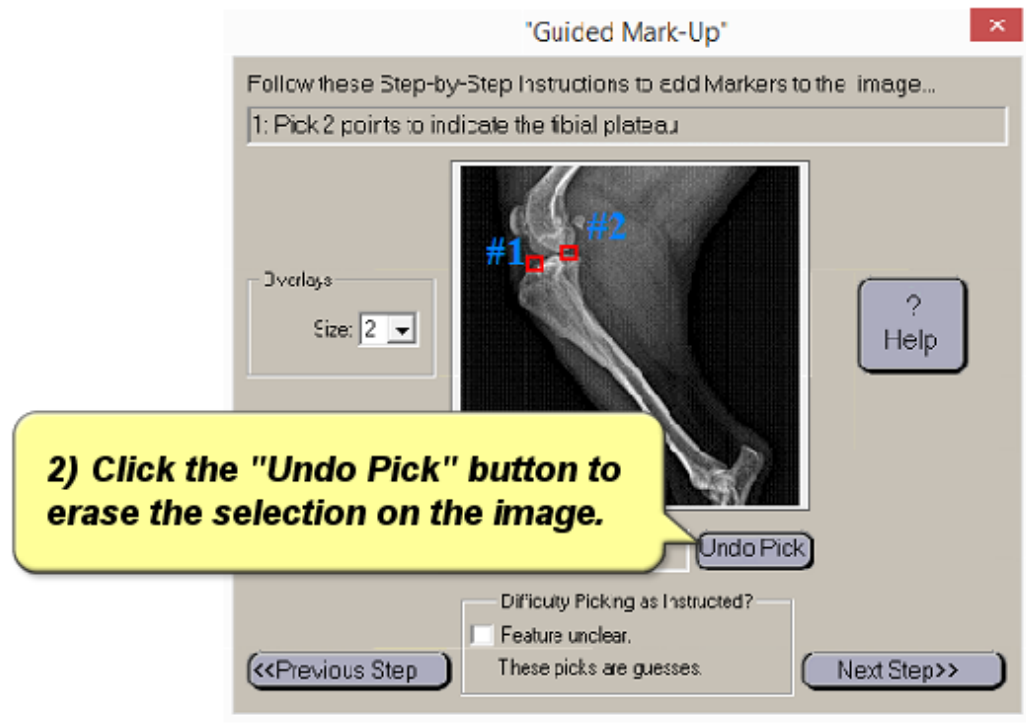
***At the end of each step,
you will notice the
instruction window says
"Marker Complete."***

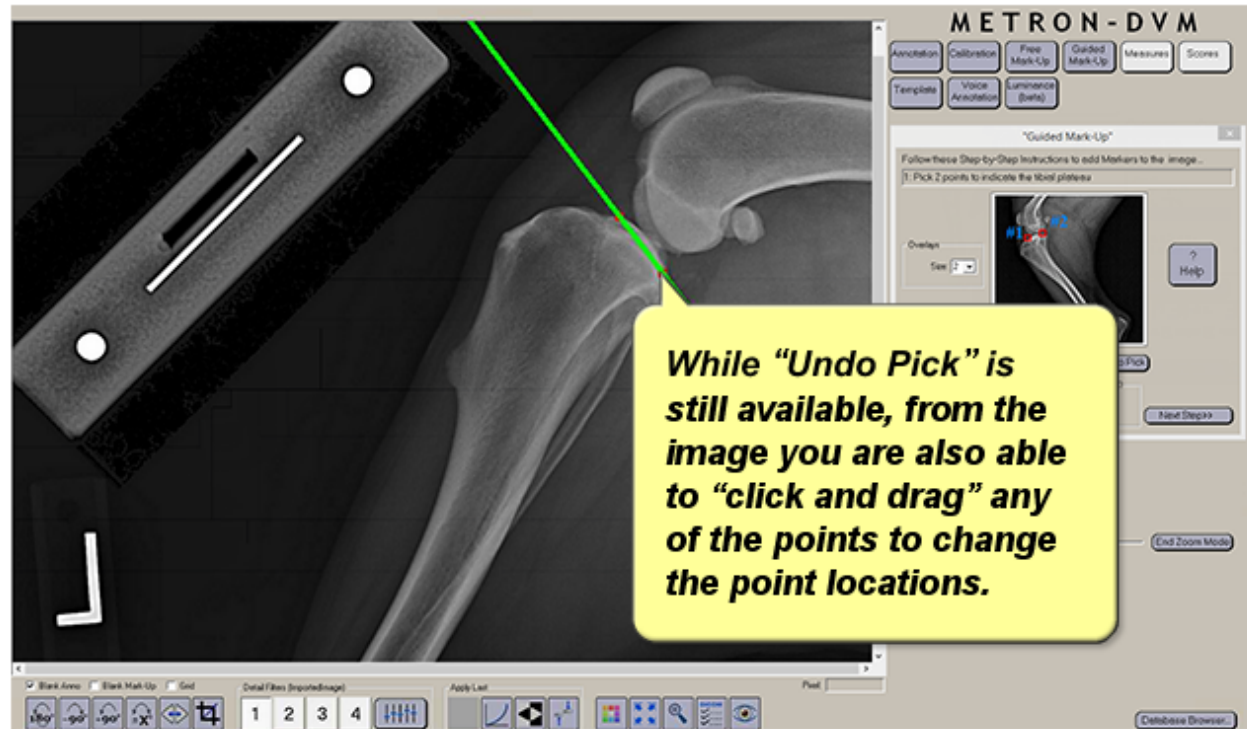




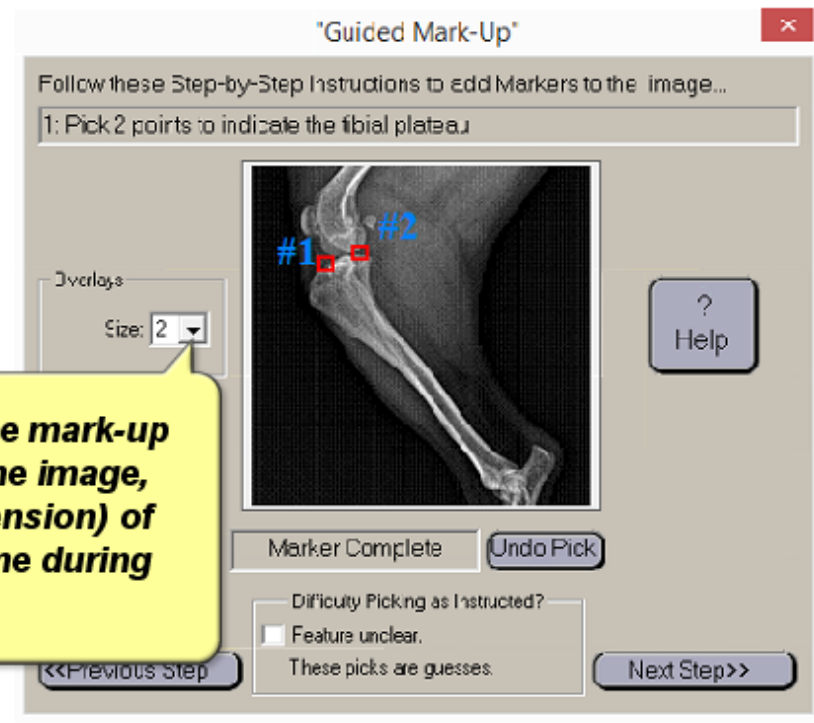
Also, at any point you are able to:
1) Click the
"<<Previous Step"
button to move back
one step at a time.

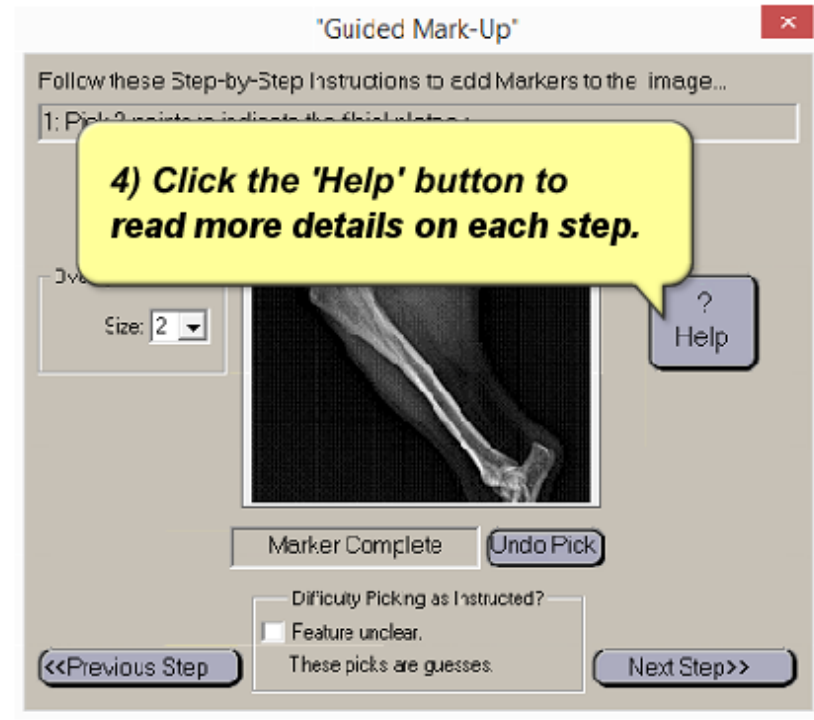




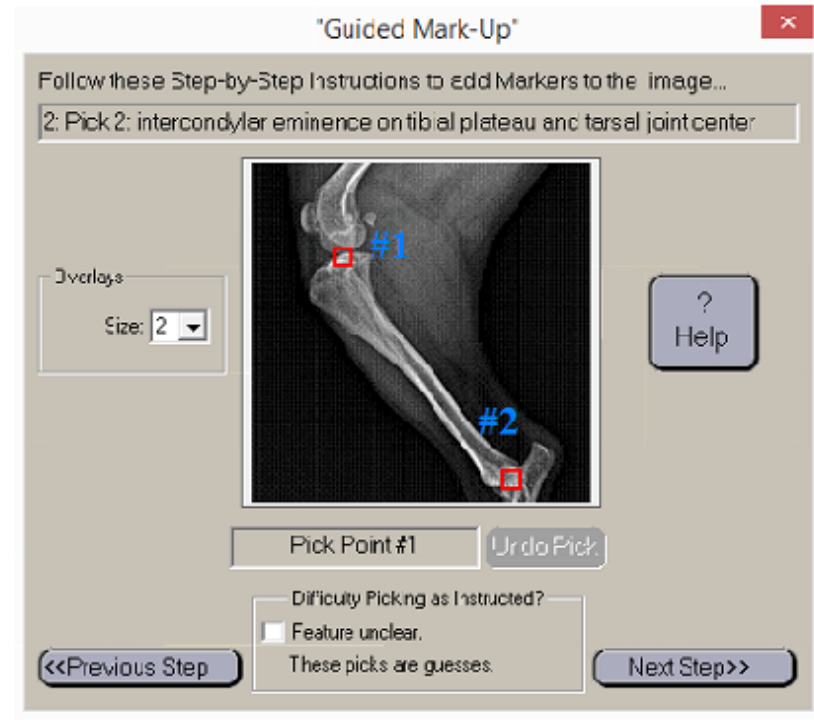


3) If you have Zoomed and the mark-up seems large and coarse on the image, you can adjust the size (dimension) of the mark-up objects at anytime during the Guided Mark-Up process.



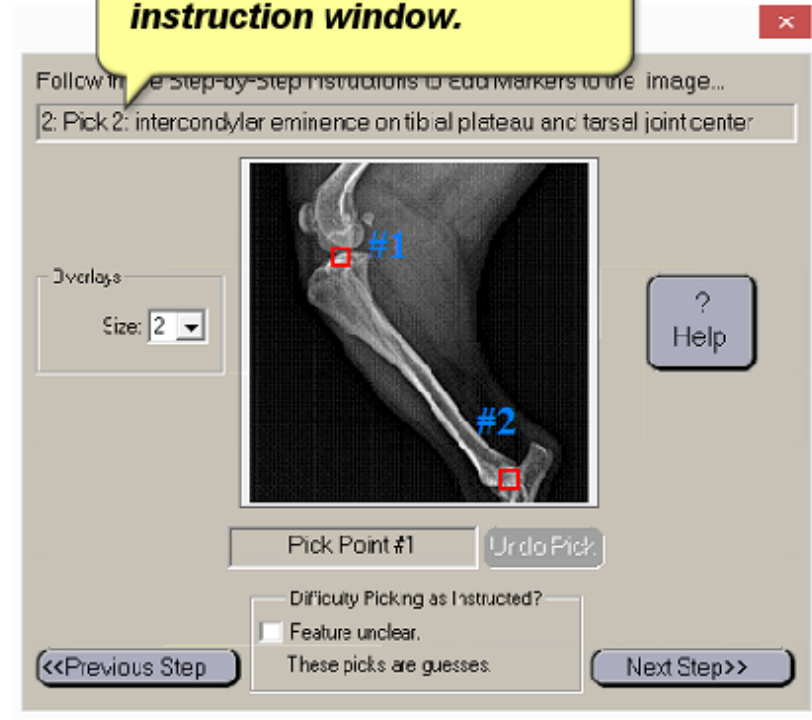


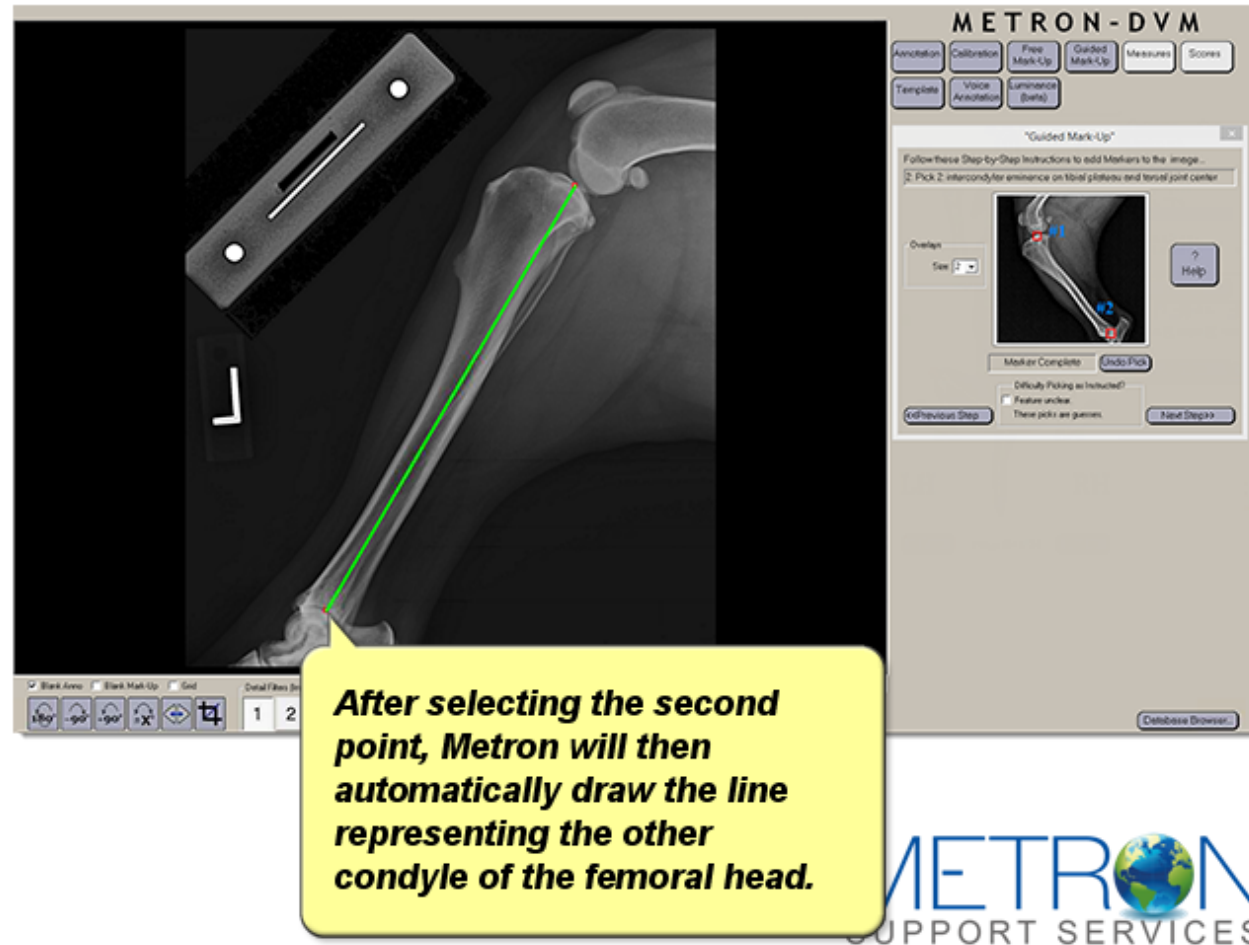
Step 2:
**"Intercondylar
Eminence"**

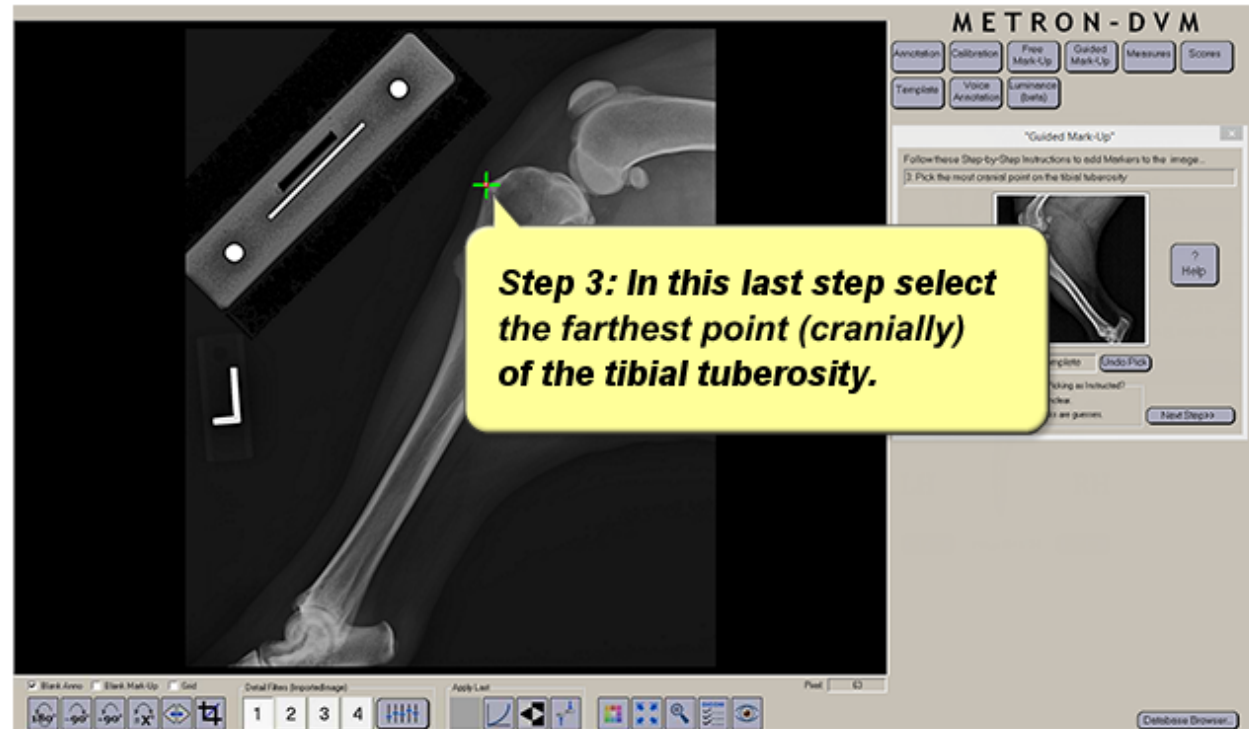


**Step 2:
"Intercondylar
Eminence"**

***Pick two points on your
image as indicated in the
instruction window.***



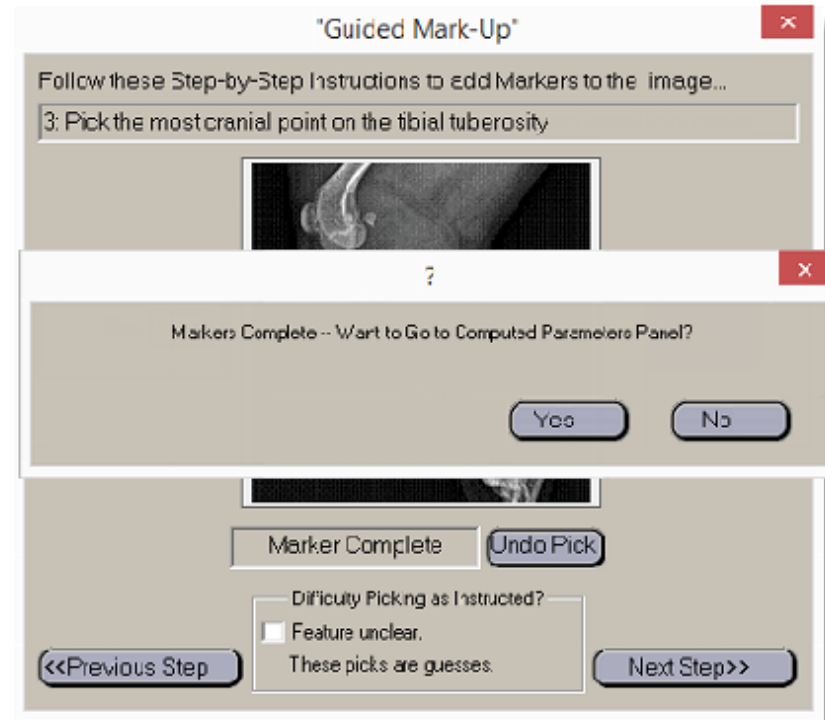




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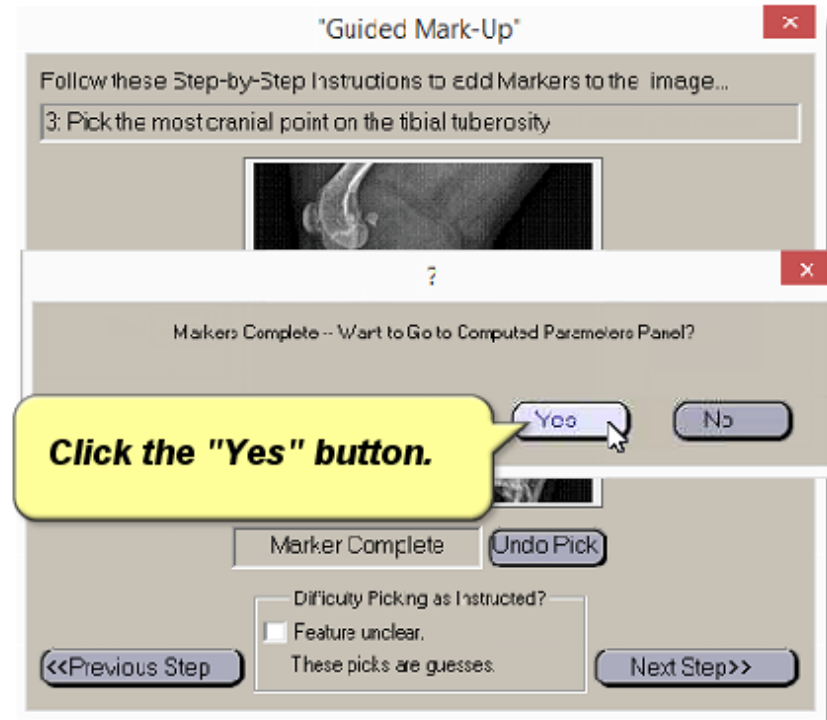
Guided Mark-Up: TTA-Ness Analysis | Canine

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

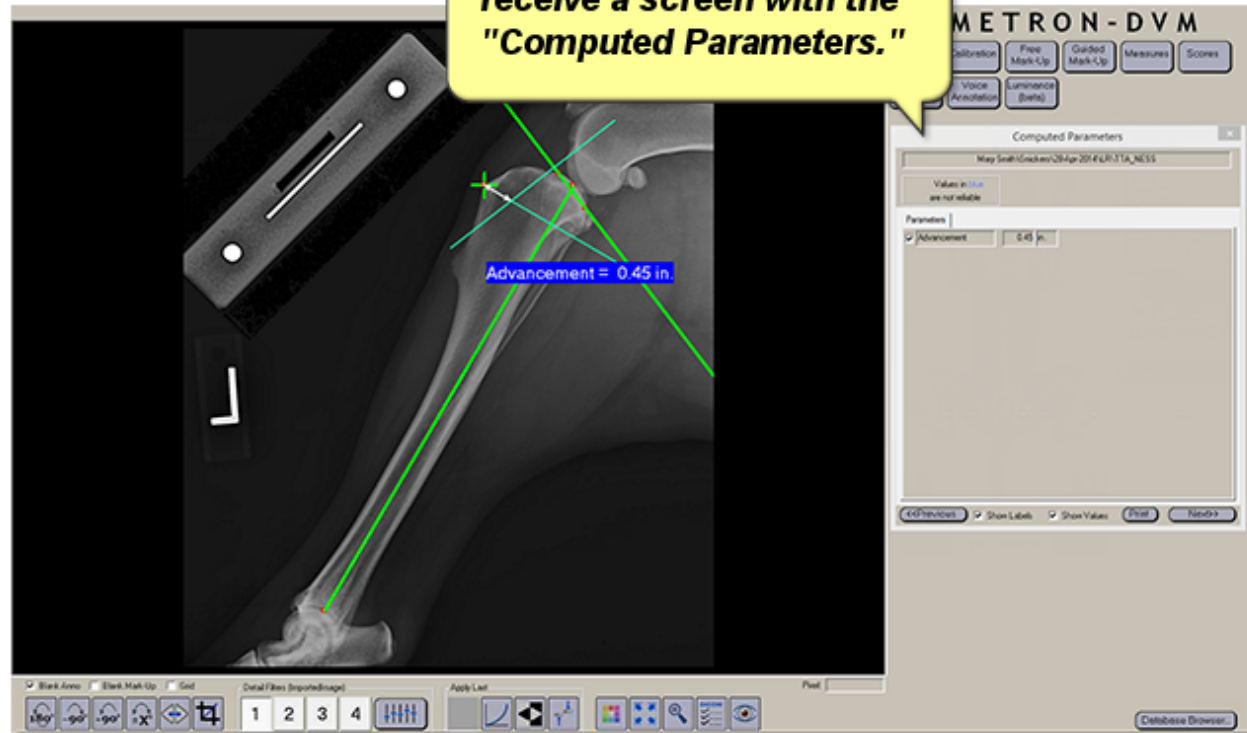


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After finishing step three, you are asked if you are ready to have Metron calculate the parameters.



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



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

Computed Parameters

Mark Smith Snicker 20-Apr-2014 UTD TTA-NESS

Values in blue are not reliable

Parameters

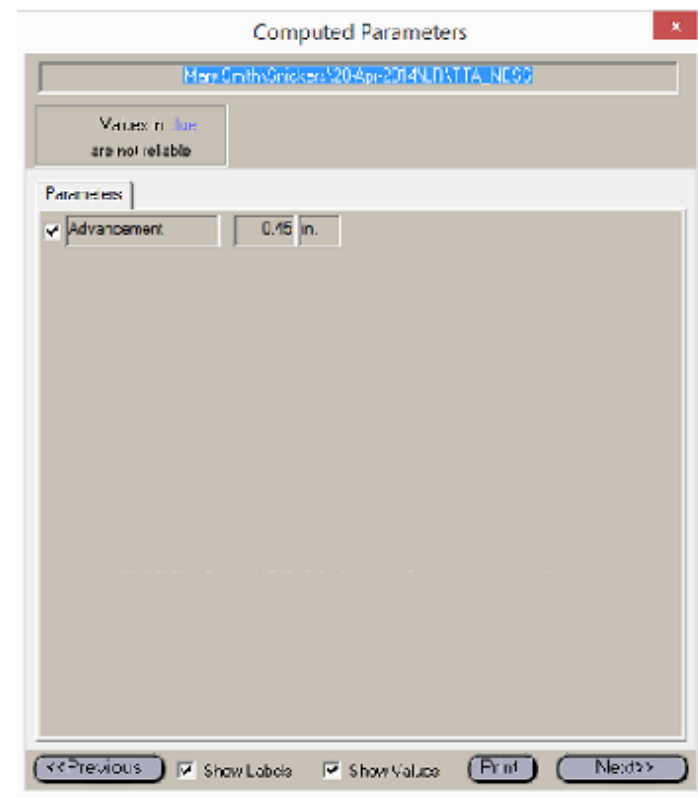
☒	Advancement	0.15 in.
-------------------------------------	-------------	----------

<<Previous Show Labels Show Value Print Next>>

Guided Mark-Up: TTA-Ness Analysis | Canine

This analysis computes the advancement value. This value can be used to determine the proper size hardware for the TTA procedure. Please reference material from [Kyon, Inc](#) regarding this selection

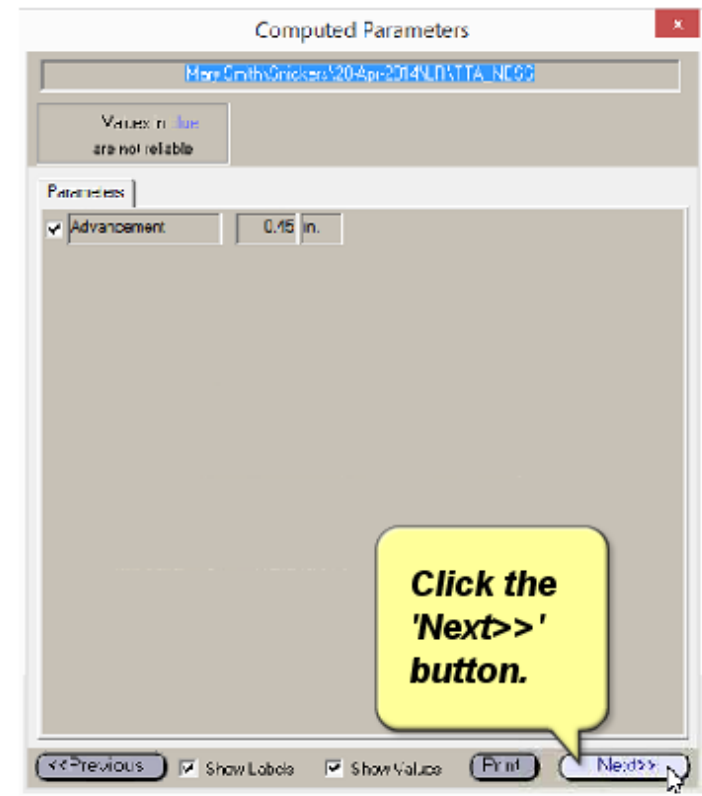
Remember you can select metric or English units under "**Preferences**" and then choose "**General**" in the top menu bar.



Guided Mark-Up: TTA-Ness Analysis | Canine

This analysis computes the advancement value. This value can be used to determine the proper size hardware for the TTA procedure. Please reference material from [Kyon, Inc](#) regarding this selection

Remember you can select metric or English units under "**Preferences**" and then choose "**General**" in the top menu bar.



Guided Mark-Up: TTA-Ness Analysis | Canine

When you click **"Next>>"**, you are brought to the **"Computed Parameters and Rule-Based Scoring"** window which shows the scores for this animal.

Computed Parameters and Rule-Based Scoring

Mary Smith/Enicker/1284p-2014/LR/TTA_NESS

Rule: TTA_NESS Load Rule Save Rule Delete Rule

Parameters

Parameter Name	Value	Best when...	Importance
Advancement	U.9b in.	Between U.113 and U.997	High Edit...

<< Prev in 28 Highlight Level: C Score: 100.0 Print

Guided Mark-Up: TTA-Ness Analysis | Canine

When you click **"Next>>"**, you are brought to the **"Computed Parameters and Rule-Based Scoring"** window which shows the scores for this animal.

In the case of TTA, Metron's scoring rule is showing the range of sizes of hardware available from Kyon, Inc. As long as the 'advancement' value is within the displayed range, hardware is available, and the animal is a candidate for the TTA procedure.

Computed Parameters and Rule-Based Scoring

Mary Smith/Enicker/1284p-2014/LR/TTA_NESS

Rule: TTA_NESS Load Rule Save Rule Delete Rule

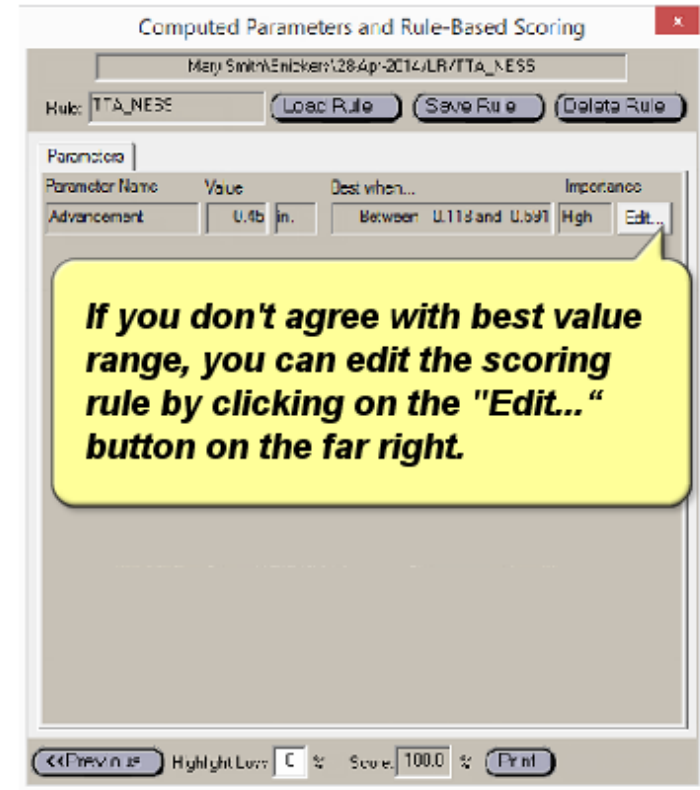
Parameters

Parameter Name	Value	Best when...	Importance
Advancement	0.4b in.	Between 0.113 and 0.997	High Edit...

<< Prev in 28 Highlight Level: C Score: 100.0 Print

Guided Mark-Up: TTA-Ness Analysis | Canine

When you click **"Next>>"**, you are brought to the **"Computed Parameters and Rule-Based Scoring"** window which shows the scores for this animal.





Guided Mark-Up in Metron: TTA-Ness Analysis for Canine

This completes the "Guided Mark-Up in Metron: TTA-Ness Analysis" online training. Please feel free to view 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.

