UAB Softneta
K. Barsausko st. 59B, LT 51423
Kaunas, Lithuania
info@softneta.com
www.softneta.com

# MedDream DICOM Viewer
# Specific VET Functions
# (version 8.2.0)

© 2023, Softneta UAB, Kaunas

All rights reserved in the event of granting of patents or registration as a utility patent.

All names of companies and products mentioned in this user`s manual may be trademarks or registered trademarks. References to products of other manufacturers are for information purposes only. Such references are intended neither as an approval nor a recommendation of these products. Softneta UAB accepts no liability for the performance or use of such products.

Other brand names, software and hardware names used in this user`s manual is subject to trademark or patent protection. The quoting of products is for informational purposes only and does not represent a trademark misuse.

This user`s manual is protected by copyright. Unless exclusively authorized in writing, dissemination, duplication or other commercial exploitation of this documentation set or communication of its contents or parts of it is not permitted. In case of infringement, the violator may be liable to pay compensation for damages.

Specifications due to technical developments are subject to change. This user`s manual is not subject to the revision service. Please contact the manufacturer or authorized dealer to request the latest edition of the manual.

# Table of Contents

Table of Contents ..... 3
Specific VET Functions ..... 4
Cobb Angle ..... 4
Tibial Plateau Angle ..... 4
Norberg Angle ..... 5
Verbal Heart Scale ..... 7
Hip distraction index ..... 8
Tibial tuberosity advancement ..... 9
About window ..... 11
MedDream DICOM VIEWER USER MANUAL ..... 12

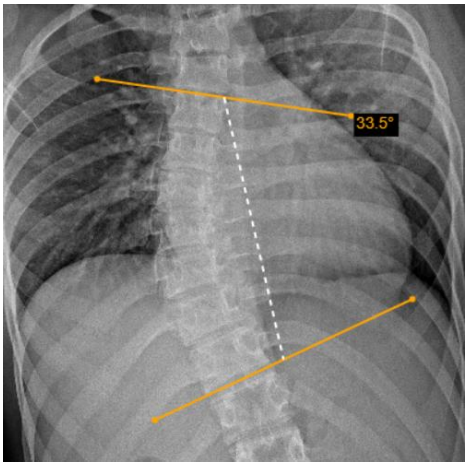
# Specific VET Functions

This document describes only MedDream DICOM VET VIEWER specific functions: **Cobb Angle**, **TPA**, **Norberg Angle, VHS, Hip DI and TTA**. To read full user manual of MedDream DICOM Viewer, please follow the link: MEDDREAM DICOM VIEWER USER MANUAL.

## Cobb Angle

The **Cobb angle** button is used to measure angle between lines. To measure angle:

- select **Cobb angle** tool in **Measure** menu;
- click on image and draw two lines, parallel to the most tilted vertebrae,
- the Cobb angle (angle between lines) measure will appear:




- *Figure 1. Cobb angle.*

- you can drag lines and line points, or the whole measurement object by dragging the white dotted line.

## Tibial Plateau Angle

The **TPA** button is used to measure angle between the tibial plateau slope line and the line that is perpendicular to tibia axis line. To measure angle:

- select **TPA** tool in **Measure** menu;
- draw the tibia axis line (A):

- start from the ankle. Point the mouse cursor on the edge of the talus, click the selected mouse button, move the mouse to the center of talus, and click the mouse button - the system automatically draws the circle for better location of the talus center when moving the mouse;
- then move the mouse to the other side of the tibia and click the mouse button – the system automatically draws the line while moving the mouse;

- draw the tibial plateau slope line (B) by clicking mouse button on one and the other end of the line;
- through lines intersection point the program draws the line (dashed line C), that is perpendicular to the tibia axis line A, and displays the angle between the line C and tibial plateau slope line B:

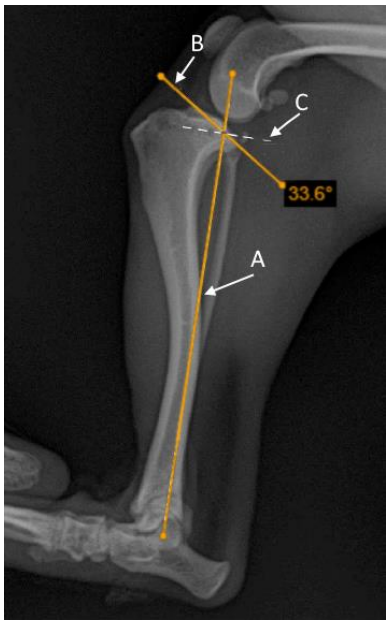



*Figure 2. Tibial Plateau Angle* (TPA)*.*

- you can adjust the circle size by dragging the dot on the circle, drag the line points, or the whole measurement object simultaneously.

## Norberg Angle

The **Norberg Angle** button is used to evaluate canine hips. To measure the angle:

- zoom in the selected image and select **Norberg Angle** tool in **Measure** menu;
- point the mouse cursor on the surface of femoral head, click the selected mouse button, and draw the circle, fitting the femoral head - the first circle of the Norberg angle:

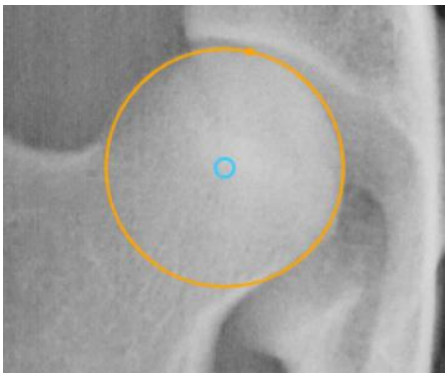


*Figure 3. Norberg angle circle with the center in femoral head*

- repeat the same process on other femoral head – draw the second circle of the Norberg angle;
- actions with other click the selected mouse button over the selected image point to place the first circle of the Norberg angle,
- the program joins the circle centers with a line and draws a line from each center at 105.0 degrees - the Norberg angle for good hip:

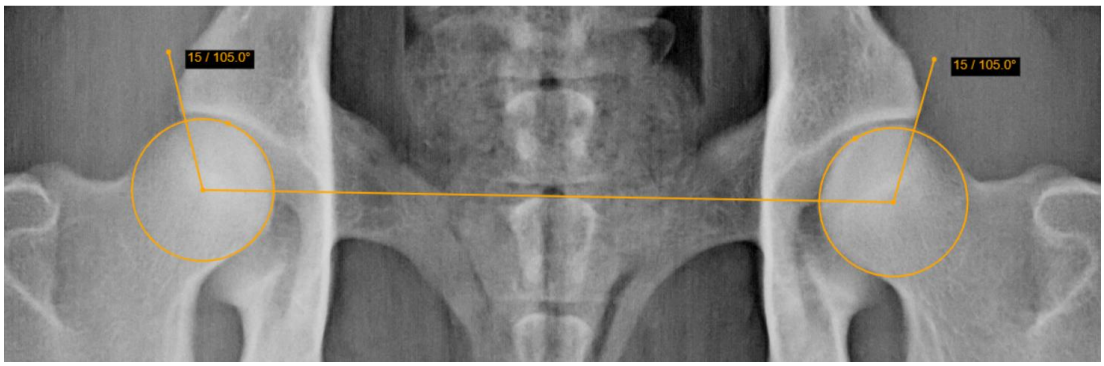



*Figure 4. Norberg angle measurement*

- drag the upper points of lines to fit the cranial acetabular rim for measuring the actual Norberg angle:

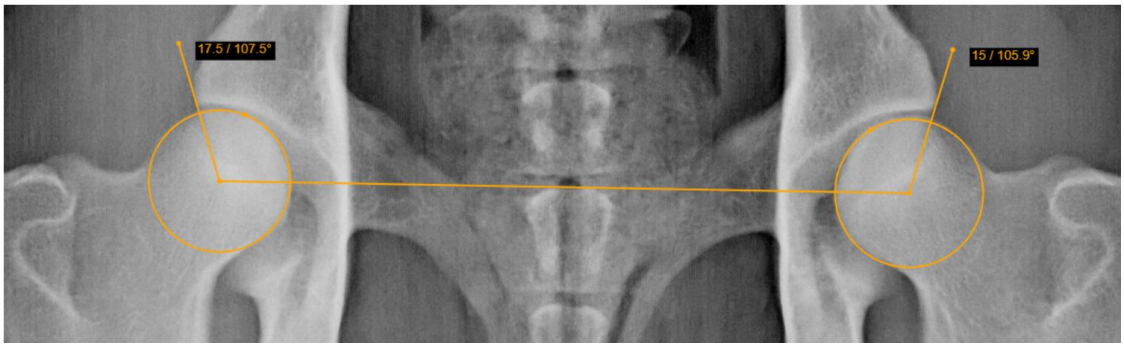



*Figure 5. Adjusted Norberg angle measurement*

- you can adjust the circle size by dragging the dot on the circle, or adjust circle position by dragging the circle center, or the whole measurement object by dragging the center line.

## Verbal Heart Scale

The **VHS** (Vertebral Heart Scale) button is used to measure heart size and provide an accurate assessment of true cardiac enlargement. To perform a VHS measurement:

- select **VHS** tool in **Measure** menu;
- place the mouse cursor and click the selected mouse button on the point from which you want to start measuring Long Axis (L),
- move the cursor to the end point of long axis and click the selected mouse button again - the Long Axis line will appear:

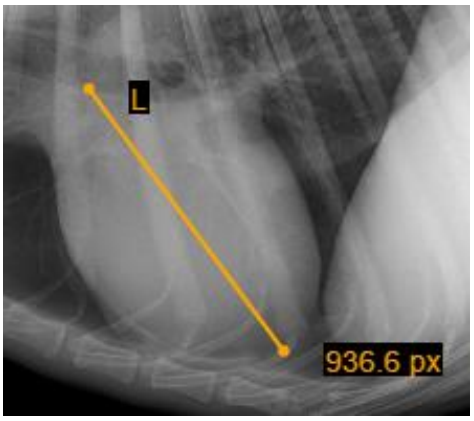



*Figure 6. Long axis of VHS measurement*

- place the mouse cursor and click the selected mouse button on the point from which you want to start measuring Short Axis (S);
- move the cursor to the end point of short axis and click the selected mouse button again – the Short Axis line will appear:

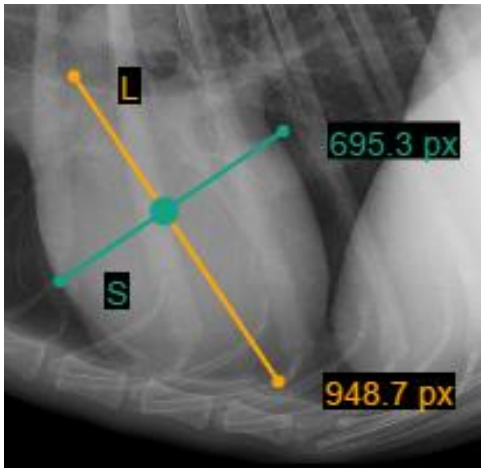



*Figure 7. Short Axis of VHS measurement*

- in order to define SL point, place your mouse cursor and click the left mouse button on the point from which you want to measure S and L lines - S and L lines will appear:

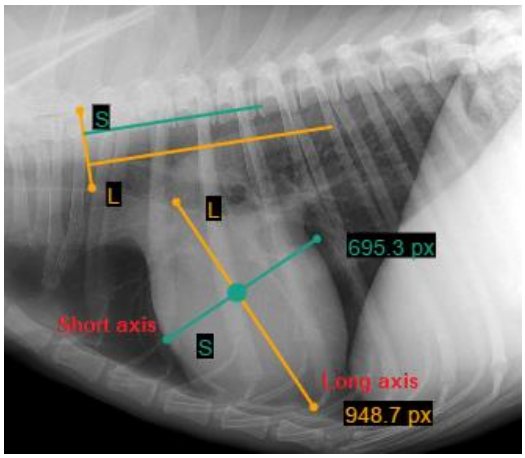



*Figure 8. VHS measurement*

You can rotate lines by dragging the ends of the line (dots) according to your needs. Click the left mouse button on the yellow dot (highlighted in red) and drag the line into a position where you want it to be. Middle vertical line (S and L line intersection point) allows to move S and L lines at the same time:

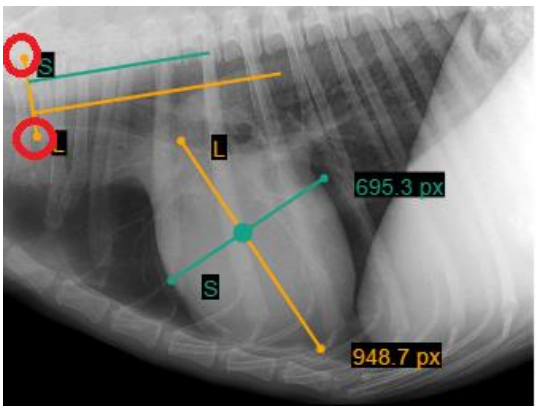



*Figure 9. S and L lines rotation*

## Hip distraction index

The **Hip distraction index (DI)** measurement allows evaluating the laxity of hip joint. The DI is calculated as ratio of distance between centers of acetabulum and femoral head, and radius of femoral head. To measure the hip distraction index:

- zoom in the selected image and select **Hip DI** tool in **Measure** menu;
- point the mouse cursor on the surface of acetabulum socket, click the selected mouse button, and draw the circle, fitting the acetabulum socket;
- point the mouse cursor on the surface of femoral head, click the selected mouse button, and draw the next circle, fitting the femoral head;
- the program draws and measures the distance between centers of circles, the radio of the second circle (femoral head), and calculates the distraction index from the measured values:

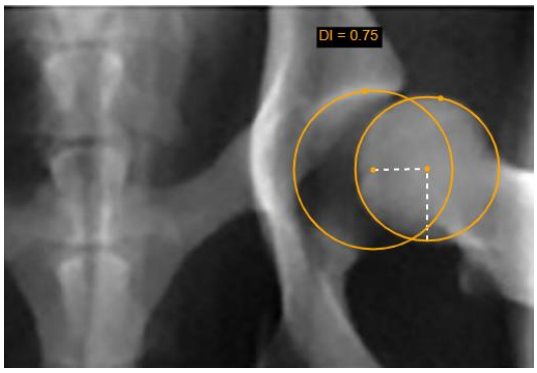



*Figure 10. Hip distraction index measurement*

- you can adjust the circle size by dragging the dot on the circle, or position of individual circle by dragging the circle center, or move the whole measurement object by dragging the distance or radius lines.

## Tibial tuberosity advancement

The **TTA** measurement allows estimating the cage width of tibial tuberosity advancement (TTA) in the surgical stabilization of the dog's knee joint. Common tangent parallel lines method is applied for measuring. To measure the cage width:

- zoom in the selected image and select **TTA** tool in **Measure** menu;
- point the mouse cursor on the surface of tibial plateau, click the selected mouse button, and draw the circle, fitting the area of contact of the tibial plateau;
- point the mouse cursor on the surface of femoral condyle, click the selected mouse button, and draw the next circle, fitting the joint surface of the femoral condyle;
- point the mouse cursor on the most proximal point of the tibial crest and click the selected mouse button;
- the program joins the circle centers with a line, draws two parallel ruler lines with measured distance between them, and the guideline, perpendicular to all the three lines:

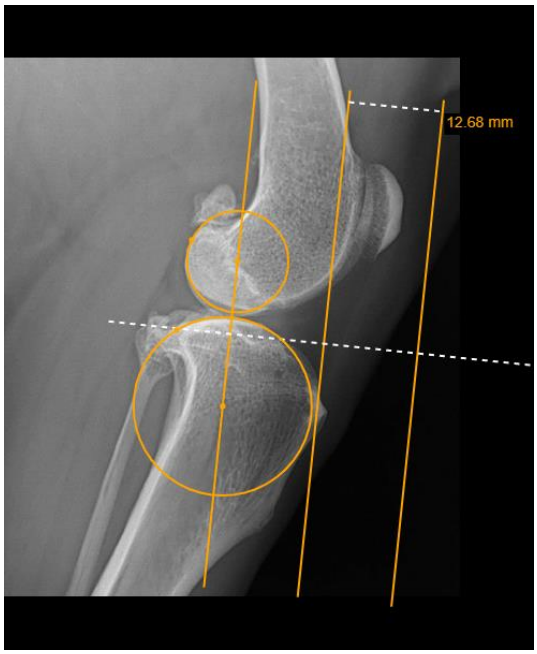



*Figure 11. TTA ruler lines displayed by the program*

- drag the outer ruler line to touch the distal patellar pole at the origin of the patellar ligament - the system measures the distance between ruler lines, that corresponds to the TTA cage width:

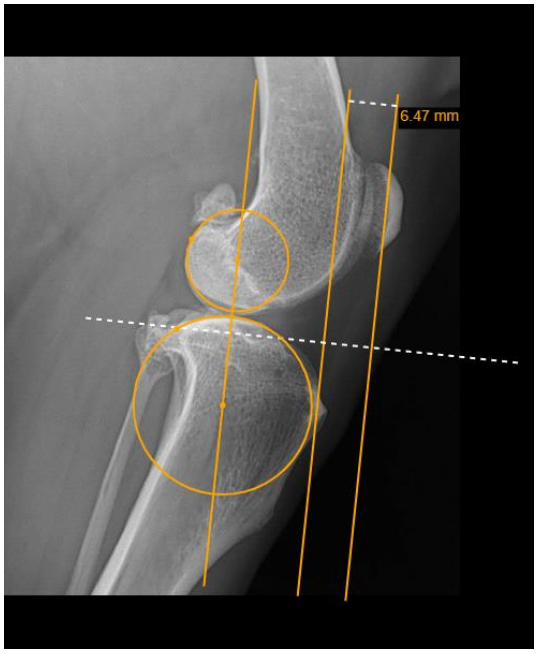



*Figure 12. Adjusted TTA cave width measurement*

- you can adjust the position of ruler lines by dragging the lines, or circle size by dragging the dot on the circle, position of individual circle by dragging the circle center, or the whole measurement object by dragging the perpendicular guideline.

⚠ **NOTE! Cobb Angle**, **TPA**, **Norberg Angle**, **VHS, Hip DI, and TTA** measuring is intended for veterinary usage. By default settings these tools are not shown in Measure menu for other than VET license types.

## About window

**About** information window will display with the following information.

*Figure 13. Information window.*

Information window will display:

1. Distribution information - Softneta UAB contacts;
2. License to;
3. Concurrent connections;
4. Functions;
5. Valid to;
6. Update to – date till the technical support and updates are provided;

7. Full product name;
8. Version;
9. Release date;
10. Contacts – Softneta UAB contacts.

To close the window, click on **Close** or **X** buttons.

# MedDream DICOM VIEWER USER MANUAL

Full description of MedDream DICOM Viewer features, measurements and all other details can be reached by this link: MEDDREAM DICOM VIEWER USER MANUAL.