

# OMEGA<sup>®</sup>

by *WillowWood*<sup>®</sup>

New Features Guide  
Version 1.7.0

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Published By  
The Ohio Willow Wood Company  
Mt. Sterling, Ohio  
USA

## TABLE OF CONTENTS

This guide describes how to use the new features in OMEGA Version 1.7.0. This guide is written as a supplement to your existing OMEGA documentation. Refer to your existing OMEGA documentation for information not covered here.

Introduction .....	<a href="#">4</a>
Creating a Spinal Orthosis .....	<a href="#">5</a>
Starting a New Patient Folder .....	<a href="#">5</a>
Adding a New File to an Existing Patient Folder .....	<a href="#">6</a>
Capture Stack .....	<a href="#">7</a>
Design Stack: General Modification Tools .....	<a href="#">8</a>
Design Stack: Spinal-Specific Tools .....	<a href="#">12</a>
Importing OMEGA Tracer BK and AK Files into OMEGA .....	<a href="#">17</a>
Exporting AOP Files .....	<a href="#">19</a>
Enhancements to Bending Tools .....	<a href="#">20</a>

## **INTRODUCTION**

This guide describes how to use the new features in OMEGA Version 1.7.0. This guide is written as a supplement to your existing OMEGA documentation. Refer to your existing OMEGA documentation for information not covered here.

## CREATING A SPINAL ORTHOSIS

OMEGA 1.7.0 now officially supports the scanning of spinal shapes and introduces new design tools specific to their modification needs.

### STARTING A NEW PATIENT FOLDER

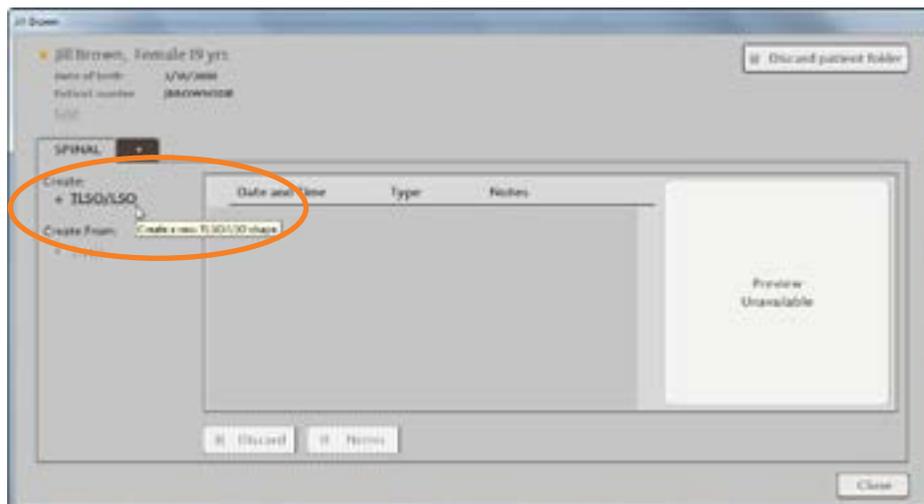
- Click **+ Add Patient** on the **Home** screen.



- After completing the **New Patient Information** window, select **Spinal** from the **Select a Condition** window.
- Select **Save** to continue.

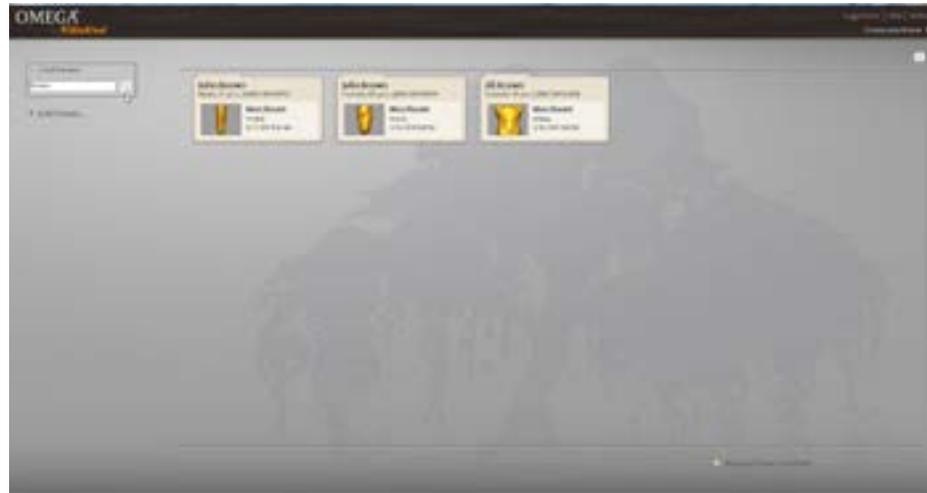


- The patient's folder will be displayed with a tab labeled **Spinal**. Click the **+ TLSO/LSO** link to launch the Capture Stack (page 7).



## ADDING A NEW FILE TO AN EXISTING PATIENT FOLDER

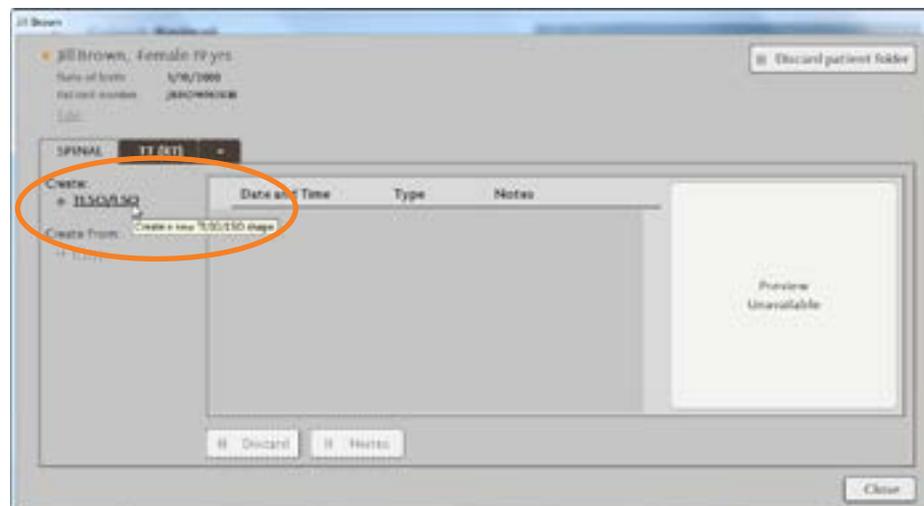
- Enter the patient's name in the **Find Patient** field. Open the patient's folder.



- Click the **+** link on the tabs to open the **Select a Condition** window.
- Select **Spinal**.
- Select **Save** to continue.

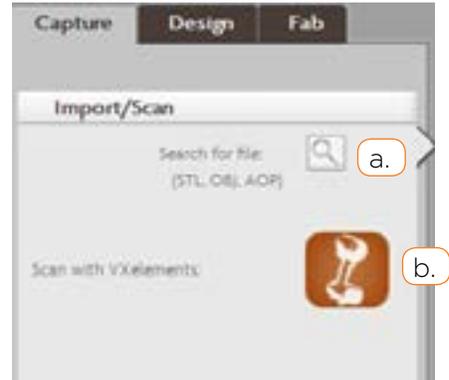


- The updated patient folder will be displayed, ensure that you have the **Spinal** tab selected, then click the **+ TLSQ/LSQ** link to launch the Capture Stack (page 7).



## CAPTURE STACK

- The Capture Stack appears.
  - a. To import a scan, click the **Search for file** icon to browse for an AOP, STL, or OBJ file.
  - b. To scan, click the **Scan with VXelements** icon and proceed to scan the patient.



- Complete the **Import/Scan, Edit, Align Shape, Cleanup, and Landmark** steps as described in your existing documentation for other OMEGA documentation shape types.
- Proceed to the Design Stack for further measurements adjustments and modification of the spinal shape.

## DESIGN STACK: GENERAL MODIFICATION TOOLS

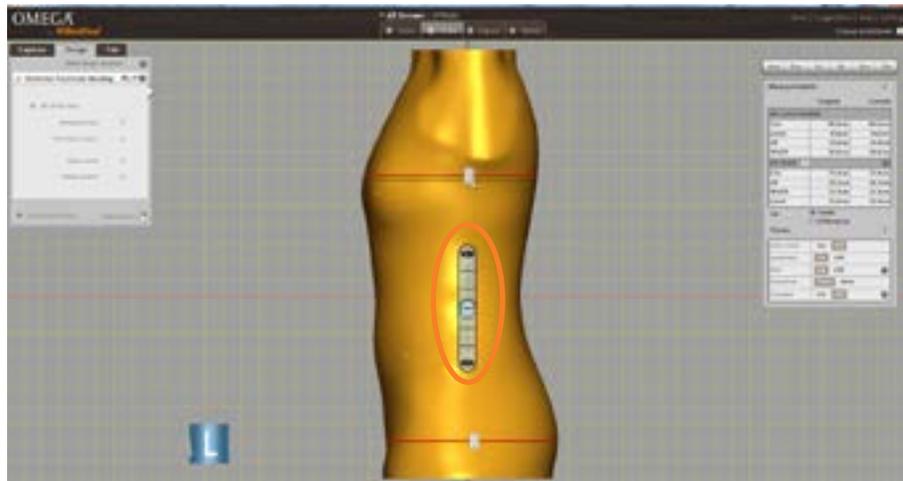
The Design Stack for spinal shapes features several new tools, additions, and enhancements.

### Anterior Posterior Bending

These tools allow you to bend a spinal shape with the aid of a goniometer on the model.

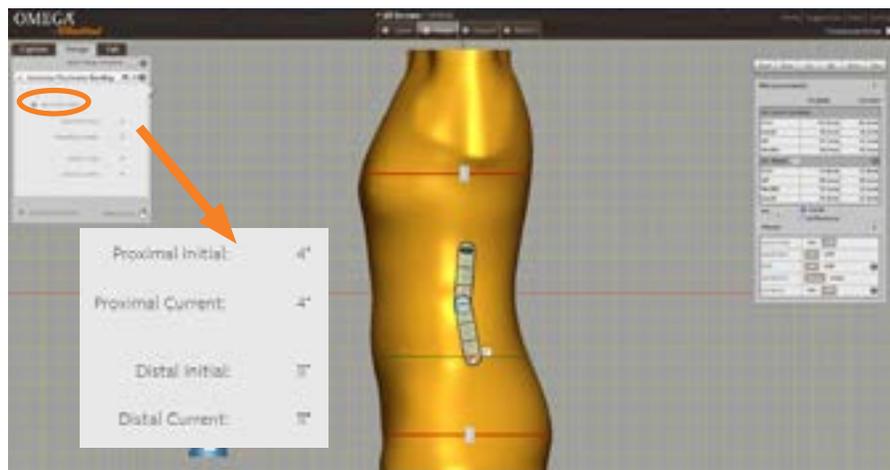
- The first step is to position the center of the goniometer. The center of the goniometer is always located midway between the red rings, and indicates where the bend is taking place on the shape.

Click and drag on the handles of the red rings to position the goniometer as needed.

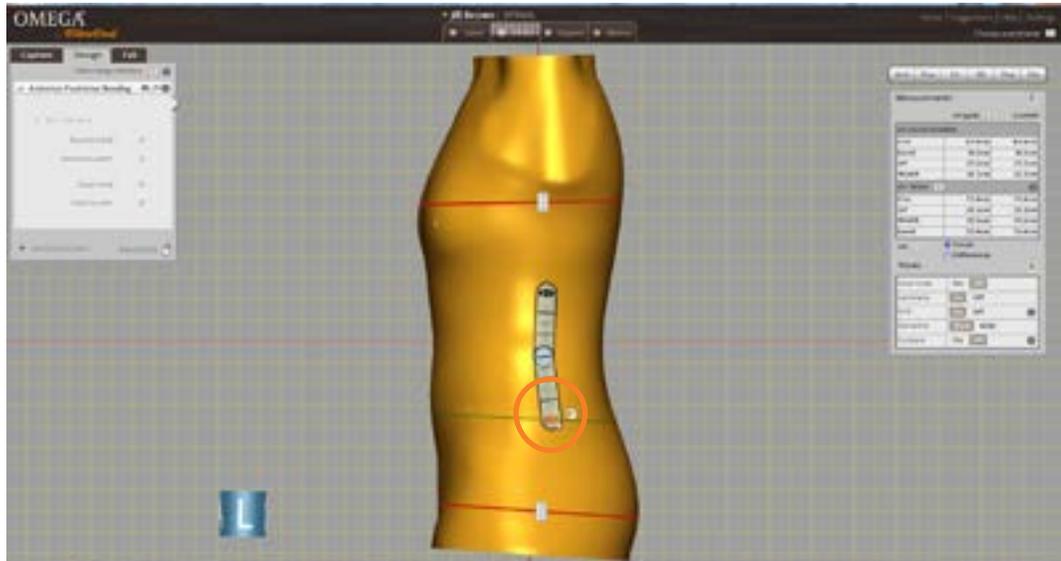


- If the shape is captured in an extended position, the arms of the goniometer can be "aligned" with the shape first before actively bending the model:
  1. Click the **Set initial value** box.
  2. Click and drag the arrows at the end of the goniometer to position the arms so that they align with the model better. Before making any flexion or extension changes to the shape, add together the **Proximal Initial** and **Distal Initial** angles to determine the initial or current angle of the shape.

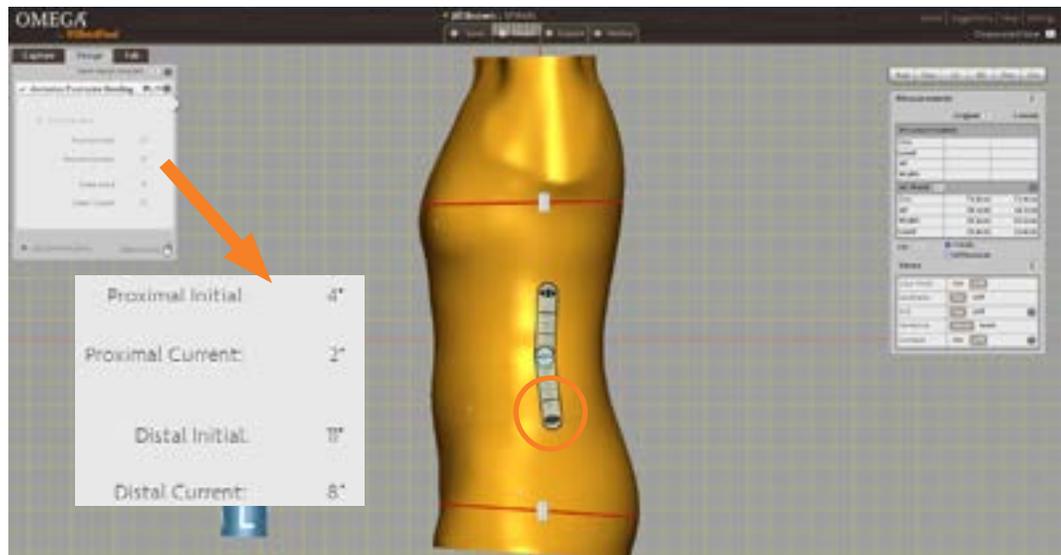
*Note: the **Set initial value feature** is only available if no bending change has already been applied using this goniometer tool. Once a bending change is applied, the **Set initial value** option is disabled and no longer available.*



- To actively bend the model:
  1. Un-check the **Set initial value** option.
  2. Click and drag the arrows at either end of the goniometer to bend the model into the desired position.



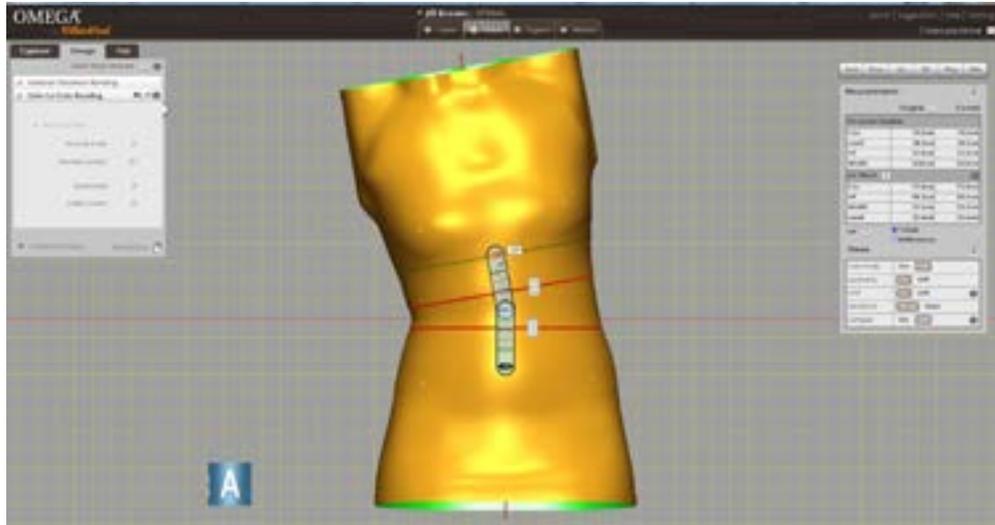
*In this example, the combined initial angle of 15 degrees was reduced to a combined current angle of 10 degrees.*



## Side to Side Bending

This tool allows you to position a goniometer on the shape to measure the current angle of the model as well as change the angle in the coronal/frontal plane.

- This bending feature works in the same manner as the **Anterior Posterior Bending** tool, except the goniometer is automatically placed on the anterior surface of the shape and the shape will bend in the coronal/frontal plane.
- The **Lateral Bend** tool is the **Side to Side Bending** tool with a clinically specialized name.



## Trimline

The **Trimline** tool has been enhanced for spinal applications to have a trimline on either end of the shape. This tool also allows you to apply a ridge either above or below the established trimline.

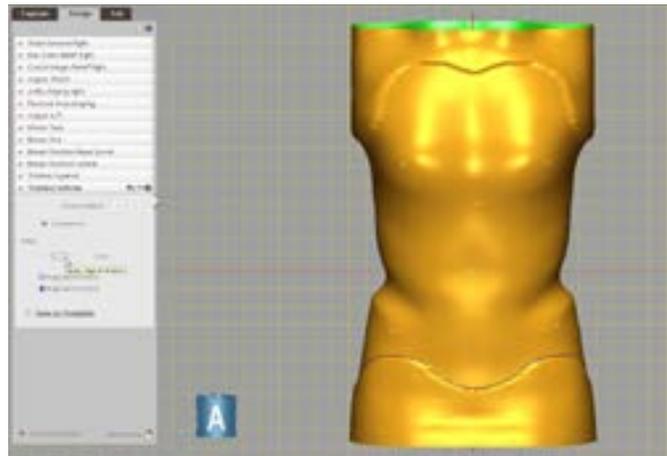
To establish both a superior and an inferior trimline, add one **Trimline** step to the Design Stack for the superior trimline, and another **Trimline** step for the inferior trimline.

- When the tool is initiated, the software provides a starting trimline for you to reposition as desired.
- Use the **Ridge** slider if desired to apply a buildup of the desired thickness that will be visible after carving. By default, the **Ridge above trimline** option will be selected. Change this selection to **Ridge below trimline** if desired.

*Adding a superior trimline*



*Adding an inferior trimline*



- To reshape the trimline symmetrically, check the **Symmetrical** option. To reshape any areas that are not symmetrical, simply uncheck this option.
- If you have created a trimline you would like to save and use again for future use on patient shapes, select the **Save as Template** link in the bottom left corner of the Trimline step.
  - Enter a name and a description for the new trimline, then click **OK**.
  - This new trimline will now be displayed whenever you click on the **Favorites** icon  for the Trimline step.

## DESIGN STACK: SPINAL-SPECIFIC MODIFICATION TOOLS

### Breast Tools

OMEGA offers three tools for breast modification: **Breast Size**, **Breast Position Raise/Lower**, and **Breast Position Lateral**.

- Use the **Breast Size** tool to increase or decrease the cup depth of the breast area.
- Use the **Breast Position Raise/Lower** tool to lift or lower the breast area towards the superior or inferior ends of the spinal shape.
- Use the **Breast Position Lateral** tool to reposition the breast area toward or away from the midline of the torso.

Each breast tool features three sets of adjustments:

- a. All three breast tools begin with the **Select Breast Location** option. See below for details.
- b. The second set of adjustments for each breast tool is specific to the function of that tool. See page 15 for details. The example at right, which shows the **Breast Size** tool, features **Size Adjustment** options.
- c. The final set of adjustments for each breast tool is for **Breast Radius**. See page 16 for details.



The **Select Breast Location** option that is provided with all three tools determines the center of the breast area that will be adjusted.

- If the **Nipple Left** and **Nipple Right** landmarks were applied during the **Landmark** step in the Capture Stack, they will be automatically selected and used for this tool.
- If the **Nipple Left** and **Nipple Right** landmarks are not on the shape, use the drop-down arrow to select **Draw Custom Landmark** and apply a landmark to the shape.

*Note: the landmark can be a single point, a line of points, or a closed area landmark.*

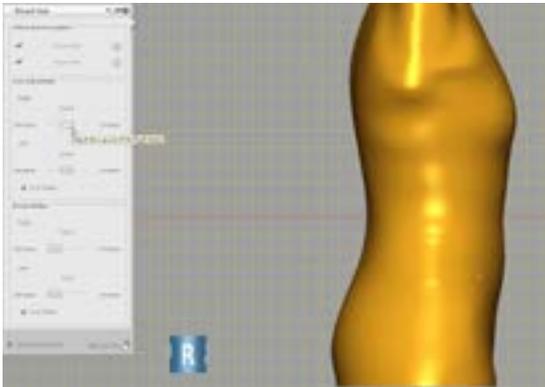


The next set of breast tool adjustments features sliders for controlling a specific aspect of breast size/position. Examples of each are shown below.

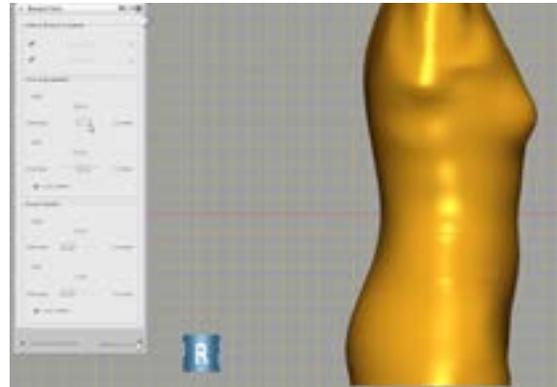
By default, the sliders are linked to move together automatically. To control each breast area independently, simply uncheck the **Link Sliders** option if desired.



**Breast Size** example:

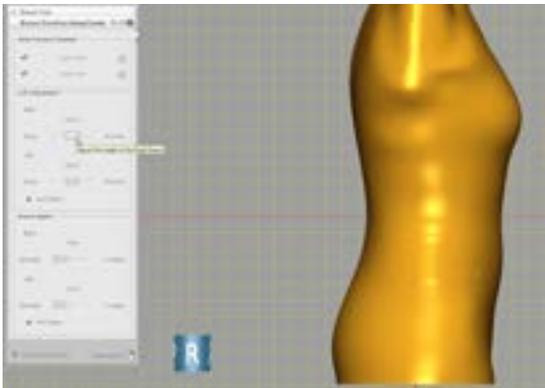


**Size Adjustment** *before increase*

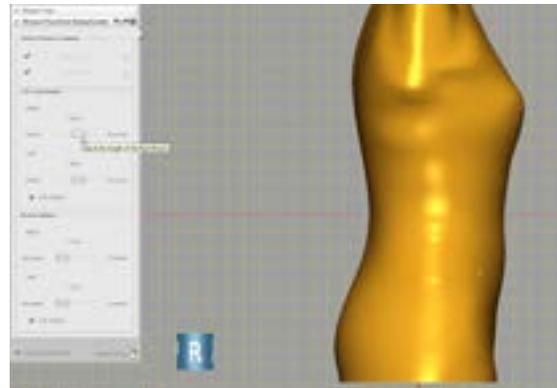


**Size Adjustment** *after increase*

**Breast Position Raise/Lower** example:

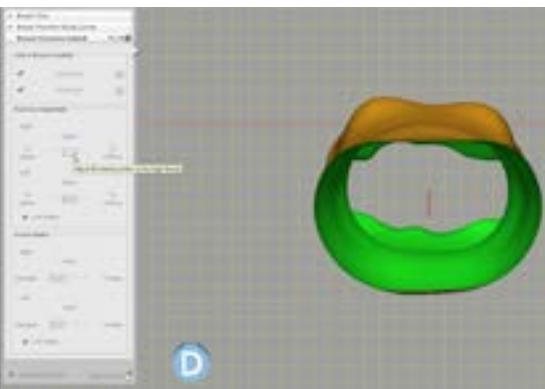


**Lift Adjustment** *before lift*

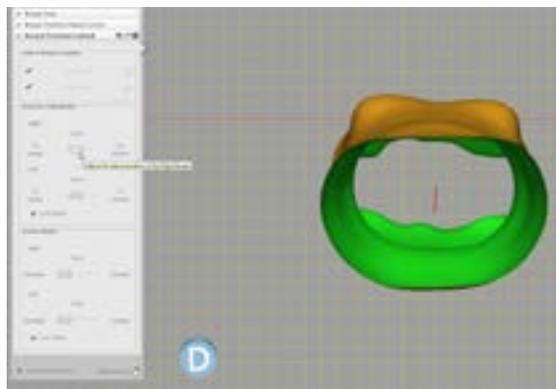


**Lift Adjustment** *after lift*

**Breast Position Lateral** example:

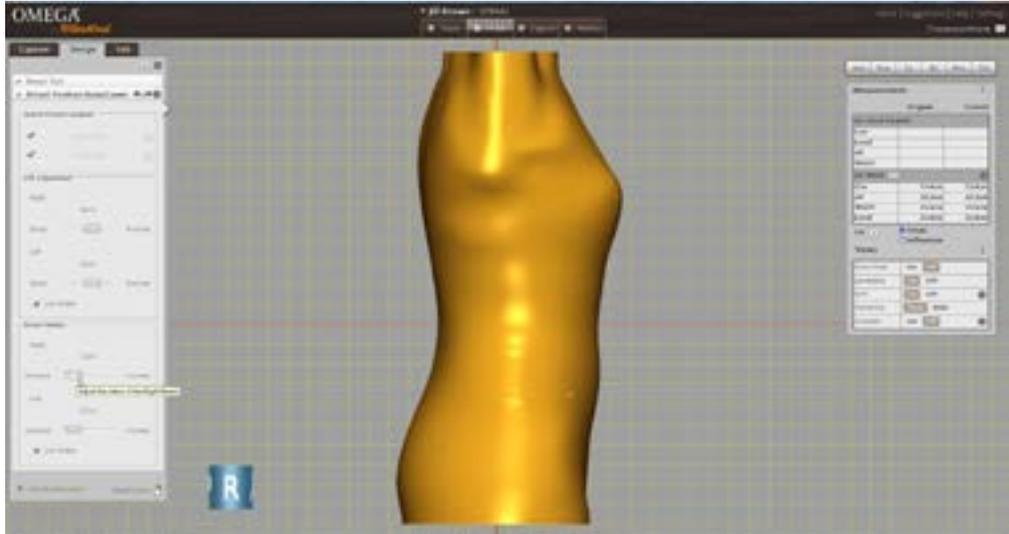


**Position Adjustment** *before*

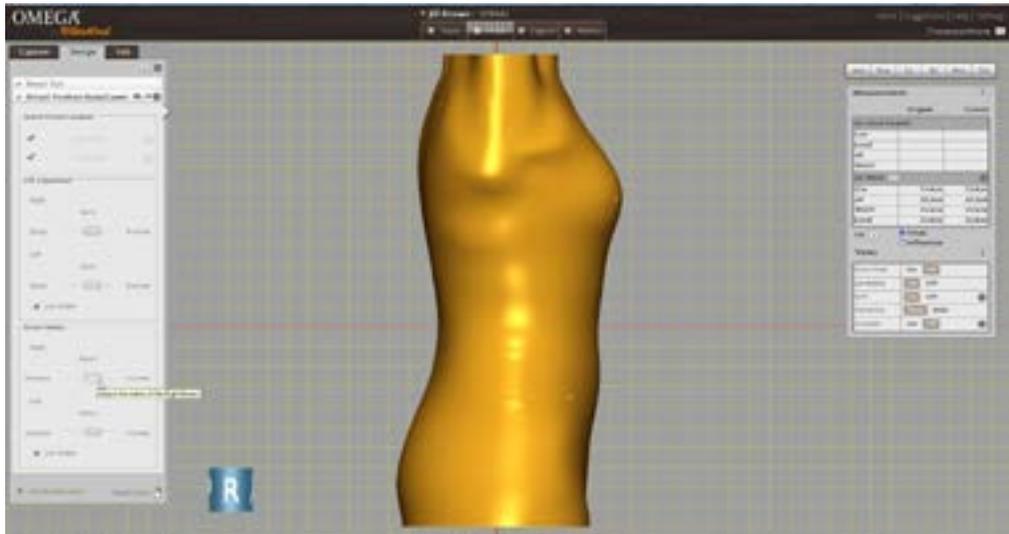


**Position Adjustment** *after*

The **Breast Radius** option that is provided with all three tools allows you to increase or decrease the radius size of the affected area. This option allows you to accommodate a variety of patient size and shape types. Uncheck the **Link Sliders** option if desired to adjust each breast area independently.



**Breast Radius** *before increase*

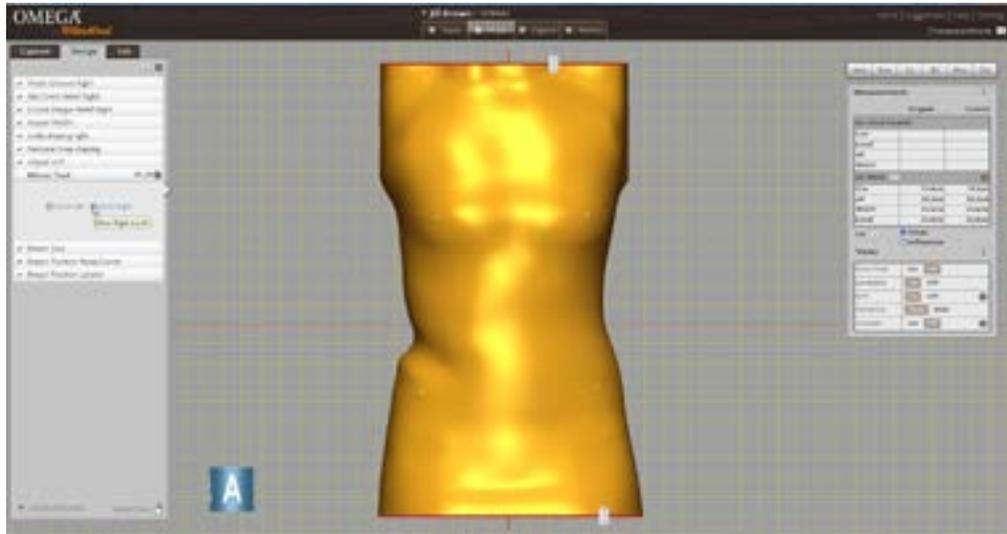


**Breast Radius** *after increase*

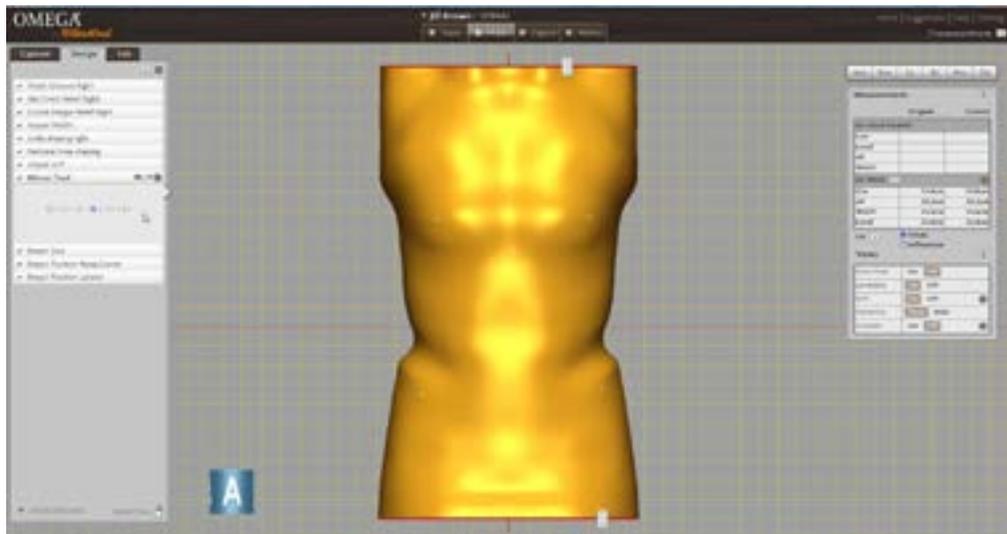
## Mirror Tool

Use the **Mirror** tool to copy either an entire side of the shape or an isolated section of the torso.

- Use the radial buttons to select which side you wish to mirror.
- To only mirror an isolated section of the torso click and drag the handles of the red control rings position at the most superior and distal ends of the shape.
- The area between the red control rings will be the only area mirrored.



**Mirror Tool** before

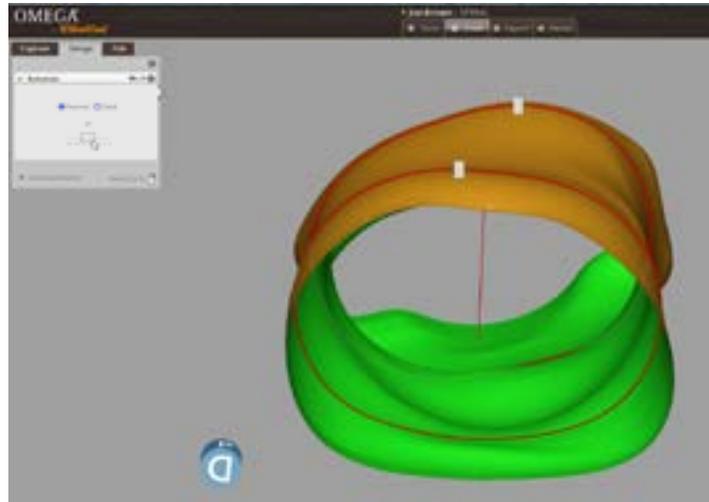


**Mirror Tool** after

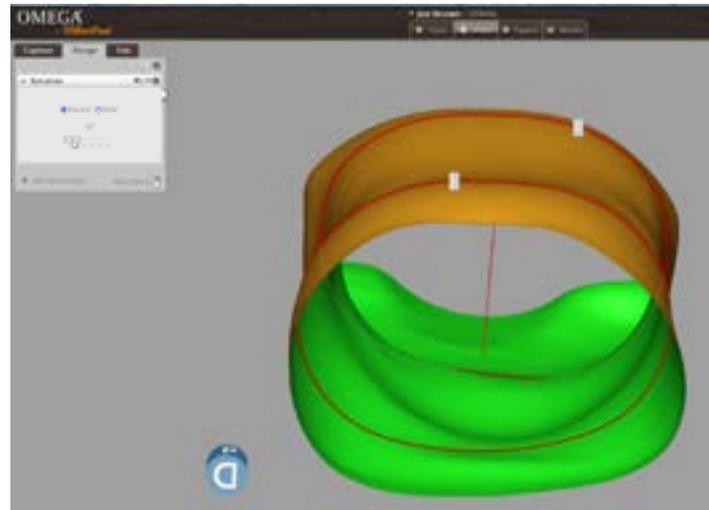
## Rotation Tool

This tool allows you to apply a twist or rotational change in the transverse plane.

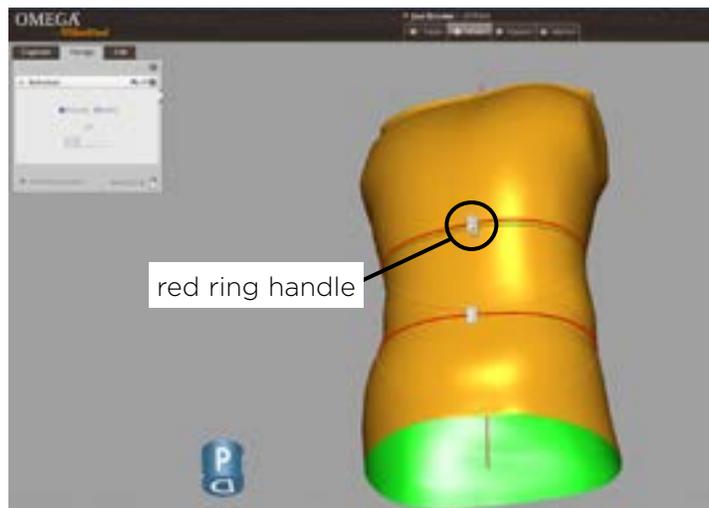
- Choose to apply a rotational change to either the proximal or distal end of the shape by clicking on the corresponding radial button selection.



- Use the slider to apply the rotational change.



- To isolate the section you wish to rotate, click and drag the handles of the red rings. Rotation changes will be applied to the area of the model above or below, depending on which end of the model you have selected to rotate. The opposite end will be locked against rotational change.



## IMPORTING OMEGA TRACER BK AND AK FILES INTO OMEGA

OMEGA now supports the importing of .BK and .AK Tracer socket shape files from OMEGA Tracer 12.2. Tracer shape files that contain Alpha DESIGN® Liner modifications cannot be imported into OMEGA.

### BEFORE YOU BEGIN

- No specialized exportation of these files out of OMEGA Tracer is required. Clinical information such as landmarks, **Tracer Notes**, **Clinical Notes**, and **Fabrication Notes** will automatically be included with the imported file.
- To import OMEGA Tracer files into OMEGA you will need access to the location where your current OMEGA Tracer patient files are saved.
- You will need to know both the side and level of amputation for the **Select a Condition** step when creating a patient folder.

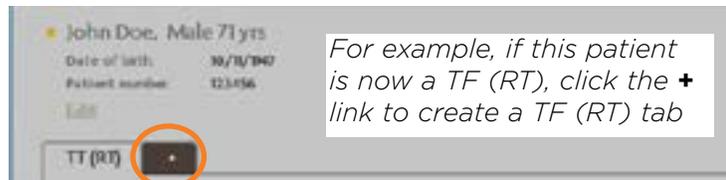
### PATIENT FOLDER

- If the OMEGA Tracer patient does not currently have a patient folder in OMEGA:
  - Select **+ Add Patient** from the **Home** screen and create a new patient folder.
  - Select the corresponding amputation level and side of amputation from the **Select a Condition** window.
  - Once the patient's new folder is open, select the **+Socket** link.
  - You will now be in the Capture Stack and ready to import the Tracer file.

### OR

- If the patient currently has more recent shape files that were created in OMEGA:
  - Use **Find Patient** search, locate their existing folder and open the folder (not a shape file) by double clicking on the patient's name.
  - From this existing patient folder, ensure the correct affected area tab is selected then click on **+ Socket** link.

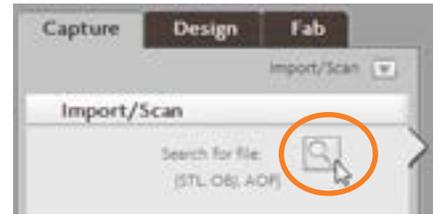
*Note: If the patient's current OMEGA patient folder does not have a tab representing the shape type and side about to be imported, create a new tab by clicking the + link and choosing the shape type and side from the **Select a Condition** window.*



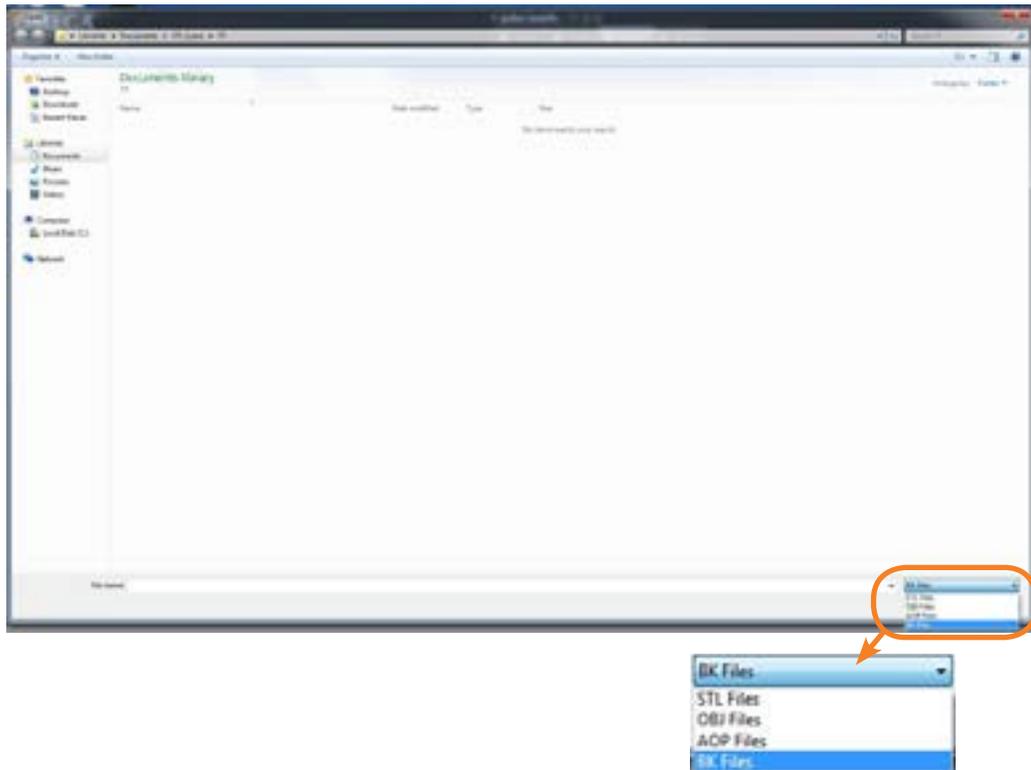
- You will now be in the Capture Stack and ready to import the Tracer file.

## CAPTURE STACK

- Ensure you are in the **Import/Scan** capture stack.
- Click on the **Search for file** icon.



- Change the file format from the dropdown menu options located in the bottom right corner of the window to either **BK Files** or **AK Files**, browse to the location of the file you wish to load, and then click **Open**.



- Once the shape opens, the **Import/Scan**, **Align Shape**, and **Landmark** steps will be checked as complete and the **Landmark** step will be active. In addition, the **Notes** window will automatically open for review containing the file information and notes imported from Tracer. You can also enter additional notes at any time for this patient file. Click **OK** to close the **Notes** window.
- You can now evaluate the shape, make changes if desired, or simply close the file. If you make no changes to the shape after it has been imported into OMEGA, you do not need to press the **Save** button before existing. The file was automatically saved when it was opened in OMEGA.

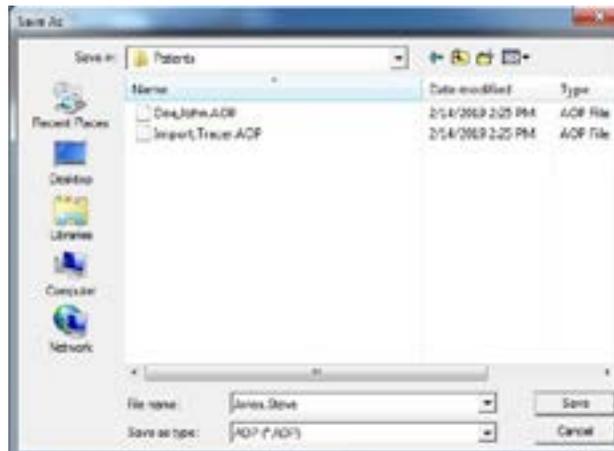
## EXPORTING AOP FILES

OMEGA now supports the exportation of AOP formatted files for all files types except AFO. AFO shapes are still best supported as an STL for file exportation.

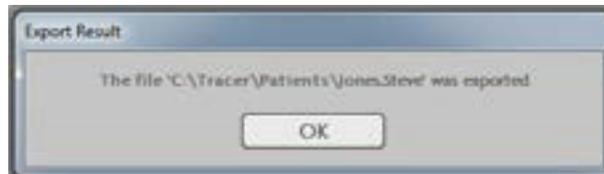
- Open the Transtibial, Transfemoral, Spinal, or generic OPEN or CLOSED file you wish to export.
- Click on **Export** in the Main Menu Bar and select **AOP**.



- Select a location for the saved shape. You may edit the file name if desired (the .AOP extension will automatically be applied).



- Select **Save**.
- The **Export Result** message is displayed, confirming the location of the exported file. Click **OK**.



## ENHANCEMENTS TO BENDING TOOLS

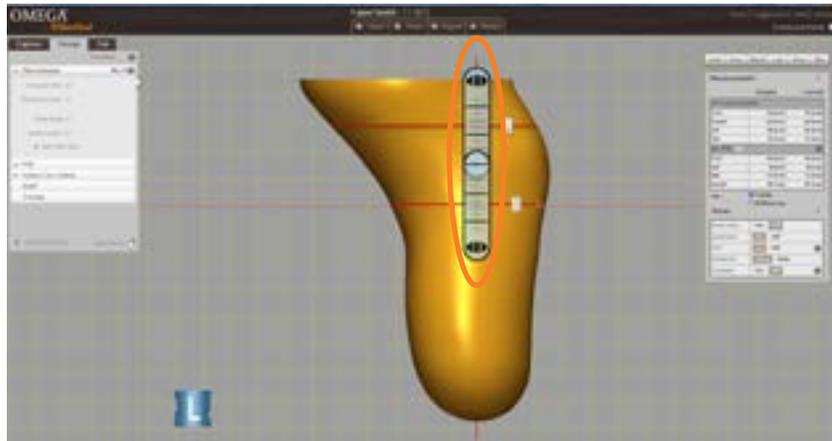
OMEGA has not only added new bending tools to support spinal applications, but has also enhanced these existing bending tools:

- **Flex-Extend** for **Transtibial** and **Transfemoral** shapes
- **Adduction-Abduction** for **Transtibial** and **Transfemoral** shapes
- **Side to Side Bending** for **Other-Open** and **Other-Closed** shapes

These tools allow you to position a goniometer on the shape to measure the current angle of the model as well as change the angle in the sagittal or the frontal/coronal plane.

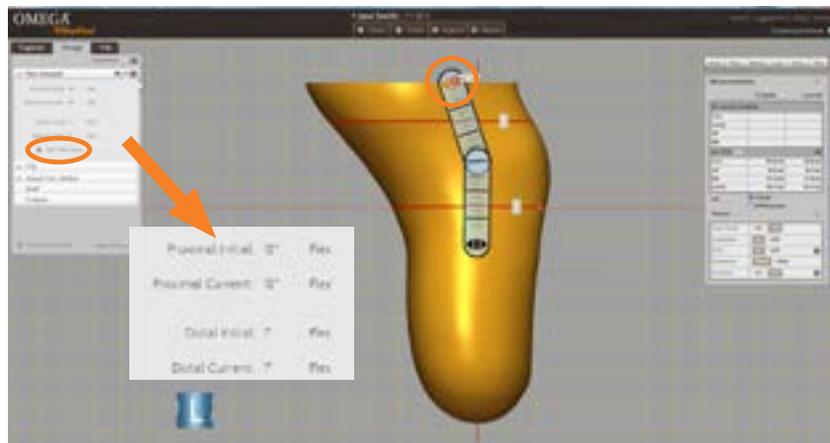
- The first step is to position the center of the goniometer. The center of the goniometer is always located midway between the red rings, and indicates where the bend is taking place on the shape.

Click and drag on the handles of the red rings to position the goniometer as needed.

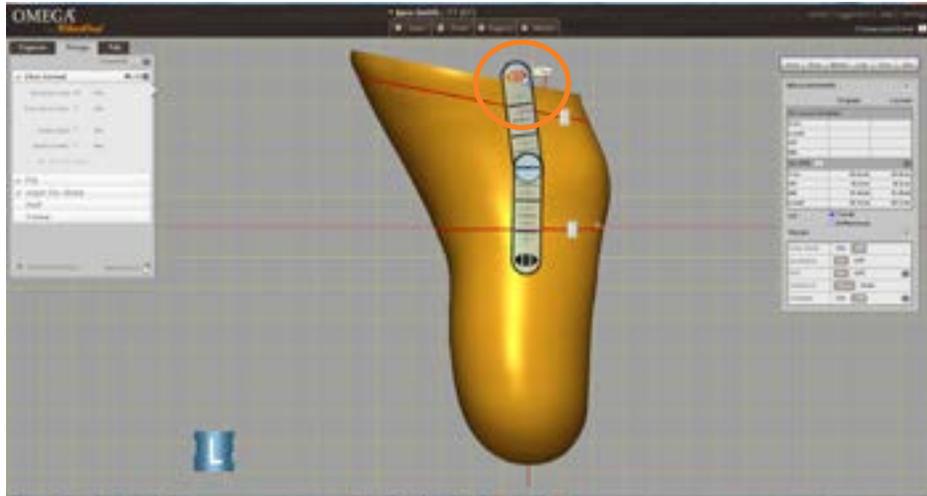


- If the shape is captured in a flexed or hyperextended position, the arms of the goniometer can be "aligned" with the shape first before actively bending the model:
  1. Click the **Set initial value** box.
  2. Click and drag the arrows at the end of the goniometer to position the arms so that they align with the model better. Before making any flexion or extension changes to the shape, add together the **Proximal Initial** and **Distal Initial** angles to determine the initial or current angle of the shape.

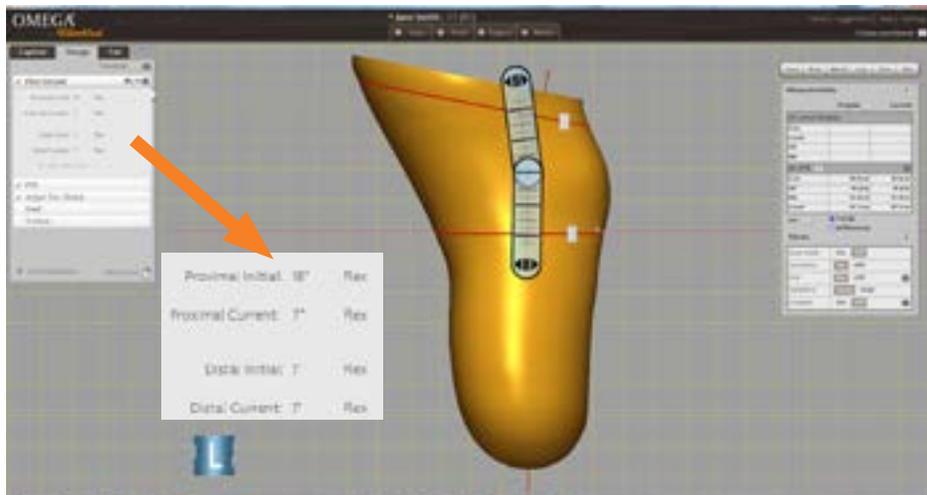
*Note: the **Set initial value feature** is only available if no bending change has already been applied using this goniometer tool. Once a bending change is applied, the **Set initial value** option is disabled and no longer available.*



- To actively bend the model:
  - Un-check the **Set initial value** option.
  - Click and drag the arrows at either end of the goniometer to bend the model into the desired position.



- The current angle for each arm position of the goniometer is displayed in the design step. Add together the **Proximal Current** and **Distal Current** angles to determine new current angle of your model after applying bends to the shape.



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