



Using iNtuition – Dynamic Region Grow Tool

Quick Guide for Customers

| Notices

Precautions and Warnings Related to Software Use

This quick step guide is not a replacement for the full manual. Please review the Aquarius iNtuition™ Client User Manual for all warning messages, notices and precautions prior to using the software.

About the Guides

Aquarius iNtuition™ Quick Step Guides are intended to be used as a step-by-step guide through typical workflows and should be used in conjunction with clinical application training. The guides are not a substitute for clinical applications training.

Regulatory Notice

Some images may display tools that are not cleared for clinical or diagnostic use the FDA-510k and may only be used for research purposes only. If you are interested in these application tools, please contact your account representative for more information.

Note: Customers who have an integration with a PACS system, please verify upgrade timelines with your PACS vendor.

| For additional support, or to Contact TeraRecon, Inc.

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24-hour Emergency number is 1 (617) 424-9405



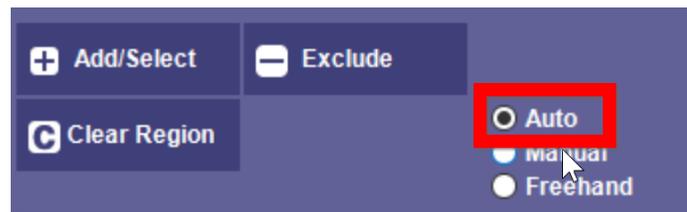
4000 East 3rd Ave, Suite 200 Foster City, CA 94404

Quick Steps: Dynamic Region Grow Tool

1. Load the select dataset into the viewer.
2. Open the Dynamic Region Grow tool from the tool panel.
 - a. If it is not visible, left click on the double arrow and choose the Region Grow tool from the additional tools available.



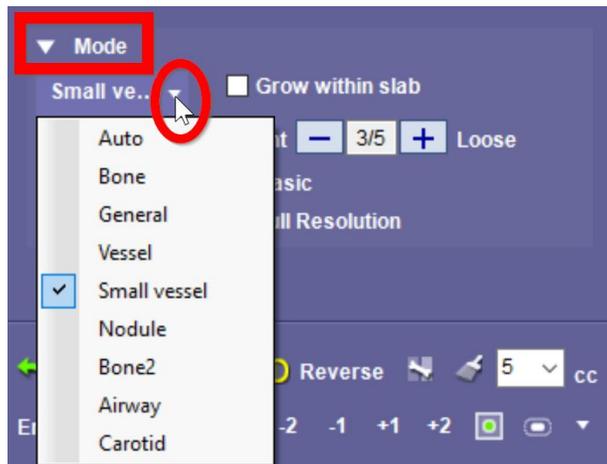
3. To use Auto Region Grow:



- a. Hold Shift + Left mouse click on a vessel to grow.
 - “Doesn't show; Doesn't Grow.”
 - Example: Carotids: W/L image so that jugular is not visible on 3D VR; then when region growing carotids the jugular will not highlight
- b. The area you grow will be highlighted in blue.
 - If too much grows; use the mouse wheel to adjust.
- c. Once the region grow area is pink or purple scrolling back will no longer work .
- d. You can rotate the image and continue to grow.
- e. The blue overlay indicates the active area grown, the pink is the inactive area and the purple is the area of overlap.



4. If the application is growing too quickly there are several adjustments that can be made.
 - a. Under mode you can change between Auto, Bone, General, Vessel, Nodule , Bone2, Airway and Carotid.

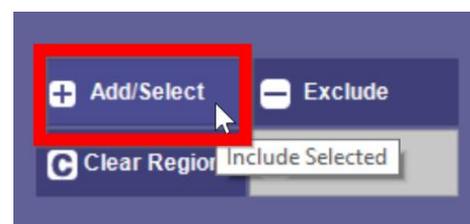
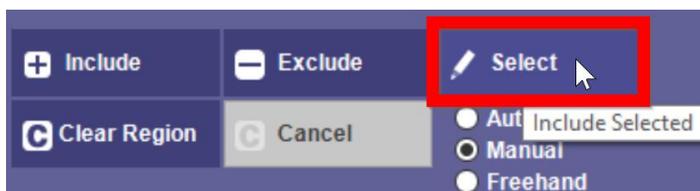


- General/Auto: grows larger areas
- Bone: Grows HU Range of Bone
- Vessel: grows larger Arteries/Veins-looks for lumen wall (example: Aorta)
- Small Vessel: smaller arteries/veins (example: Carotids, Lower legs or COW)
- Nodule: Grows Spherical shaped objects
- Bone2: Narrower HU Range, Area has to be connected (will not jump joint spaces)
- Airway: Grows Negative space
- Carotid: Similar to a Combo of Vessel and Bone2

- b. Connectivity Adjustments:
 - 1 is the tightest and it will grow the slowest
 - 5 is the fastest.
 - Start out using 3 and then adjust from there as needed.



5. After initially growing the vessel; left click on Select (or Add/Select depending on your preference setting), located to the right of the screen which will only display the selected anatomy.



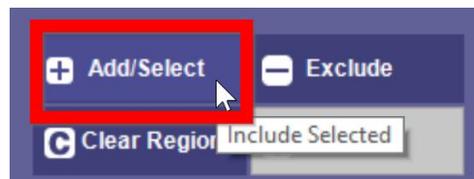
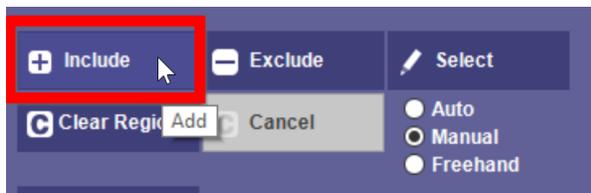
- a. If you wanted to remove the highlighted anatomy; you can choose the Exclude button instead of the Select or Add/Select button.

6. To add or regrow a missing region:
 - a. Hold shift + Ctrl on the keyboard AND hold down the left mouse button on anatomy that is visible
 - If you want to add, then add a key and take CTRL of what you can't see.
 - Can also grow from axial, sagittal or coronal images.

- b. A color overlay appears over the area that will be added.

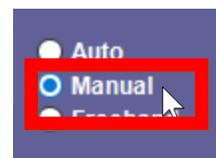
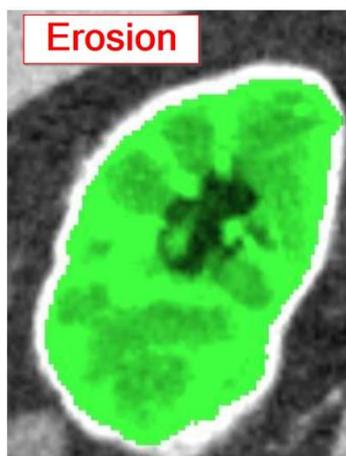
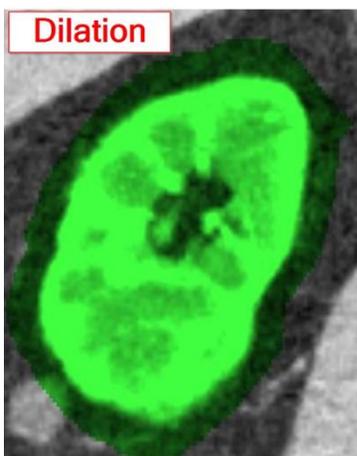
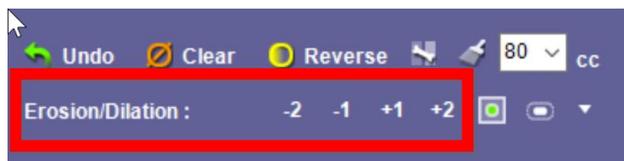


- c. Left click on Include or Add/Select to add to your 3D image.



7. Erosion/Dilation Options:

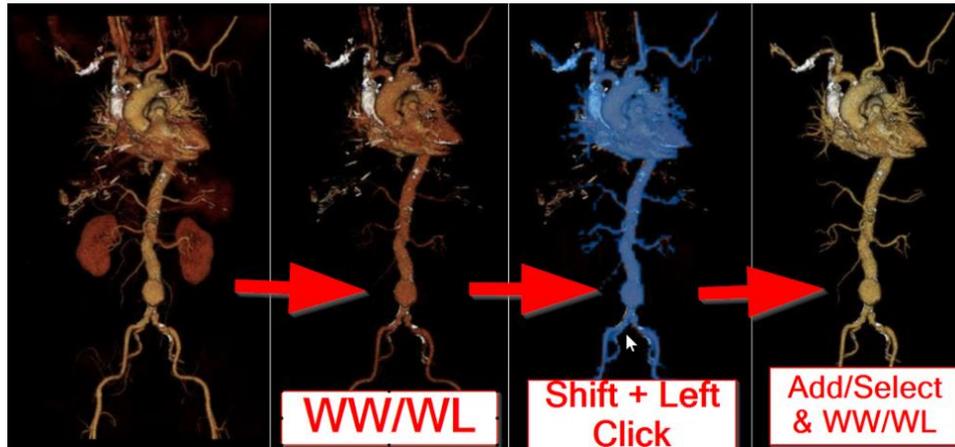
- a. You can dilate the segmented anatomy by selecting any of the positive options this will cause the area segmented to extend by the select dilation setting.
- b. You can erode any of the segmented anatomy by selecting any of the negative option.



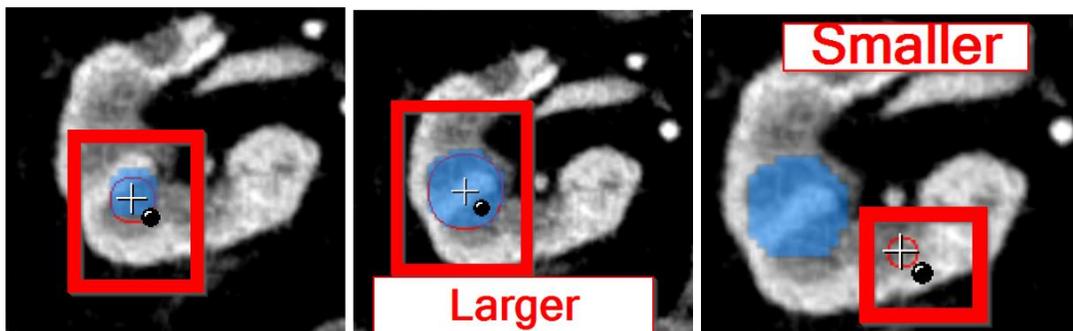
8. To use the Manual region grow tool:

- a. Works well on anatomy like the COW.
- b. Perform the Bone removal using the Bone Removal tool.
- c. WW/WL so that only the desired anatomy is visible.
- d. Shift + Left click and release; all visible anatomy will be selected.

- e. Hit Select or Add/Select.
- f. WW/WL back to desired color.



- 9. To use the Freehand region grow tool
 - a. Works similar to the old Microsoft Paint too
 - b. Works well on heterogenous anatomy.
 - c. In any of the view boxes; hold down shift and paint over the desired anatomy.
 - d. To make the paint ball larger; hold shift and roll the middle mouse wheel forward.
 - e. To make the paint ball smaller; hold shift and roll the middle mouse wheel backward.



- f. You are able to paint on all 3 of the 2D view boxes.
- g. Once finished painting;
 - Hit the Select button to keep the highlighted anatomy.
 - Hit the Include button to add the highlighted anatomy to previously segmented anatomy.
 - Or hit the Exclude button to remove the highlighted anatomy.