

Introduction

We want to add some more annotation to each vascular tube. We will be scoring each tube to describe:

1. If it is a diving artery/vein
2. If it is a surface tube
3. Its branch order off a main diving artery/vein (the actual diving arteries/veins get branch order 0)
4. Whether or not the tube has a pericyte.

Because your tubes are connected across timepoints using [Find Points](#) we can annotate tubes in **just one timepoint** and assuming the tubes don't change (with respect to these annotations) we can generalize these annotations across all timepoints.

You want to choose a timepoint for this new tube annotation that is early on and still easy to see. Just don't use the first timepoint.

Scoring tube properties

The main hyperstack stack window now has a 'Score Tubes' checkbox. When the 'Score Tubes' checkbox is on and you select an edge, the stack window will respond to the following keystrokes:

- d : Diving (will turn off Surface)
- s : Surface (will turn off Diving)
- p : Has Pericyte
- 0 : Branch order 0 (use this for diving arteries/veins)
- 1 : Branch order 1
- .
- .
- .
- 9 : Branch order 9
- Del : Clear branch order

If you cannot determine the branch order of a tube, you want the branch order to be empty. Use keyboard 'Del' or just blank out 'Branch Order' in the 'Point Info' window.

You can also bring up the [Point Info](#) window (use keyboard shift+?) and set these values using check boxes for Diving, Surface and 'Has Pericyte' and a numerical field for 'Branch Order'.

How to get started

- Open a stack window
- Turn on 'Score Tubes' checkbox
- Open point info window (shift + ?)
- Select a tube
- Try out some key strokes: d, s, p, 0, 1, 2, 3, ...
- See how the annotation changes in the point info window
- You want to make sure you get all your tubes annotated. Clicking around on different tubes in the stack window is not that reliable (you might miss a tube). Use the [Search](#) window to generate a list of all tubes and go through each tube one-by-one.