# Excised Booth Testing Procedure

This protocol should be used when testing different conditions on excised larynges. For example, a similar procedure was used in Thompson et al.1 in order to test a thyroplasty technique and compare it to another technique.

1. Dissect your larynx (the one you are testing, not your own…)
   1. If you would like to image the mucosal wave, the epiglottis should be removed along with much of the other supraglottal structures.
   2. Be careful to not damage the true vocal folds as this will invalidate whatever test you are attempting to perform.
   3. Insert a suture into the thyroid cartilage if you desire to apply a constant or variable extensions.
2. Mount your larynx onto the appropriate hose barb so that the trachea can be sealed to it with a hose clamp.
3. Tie your suture to the moveable arm that is located closest to the door on the bench setup.
4. Adjust the microphone so that it is 10cm away from the vocal folds
5. Make sure all the necessary electronics are turned on
   1. DAQ Board
   2. Microphone
   3. Pressure Amp
   4. At least 1 humidifier
   5. Light source
   6. Pressure Controller
   7. Camera Box
6. Open the booth collection program (*EBooth17.exe*) and select ‘Collect Data’
   1. If you do not understand how to use the program, find the program guide in the LabVIEW binder
   2. Do not forget to select a save location
7. Open the camera collection program (*PFV ver2.4.5.2*)
   1. If no image appears at first, try to:
      1. Turn on lights in the booth
      2. Make sure the lens cap is off
      3. Restart the PVF program
   2. Within the PFV program, click ‘Option’ then ‘Load’ then select <optimalAA\_setup.pcs>
8. Hydrate the vocal folds of the dissected larynx
9. Ramp up the flow until you get a steady phonation
   1. Make a note of the pressure of phonation and aim for this pressure in for the next phonations
10. In the camera program, click ‘Record’
11. Now it’s time to start collecting data!
    1. Hydrate the vocal folds
    2. Ramp up the flow a little to remove excess saline
    3. In *EBooth17,* click ‘Start Trial’
    4. Ramp up the flow until you reach your target pressure and phonation
    5. Click ‘Camera’ to trigger the FastCam
       1. You should notice that the partition number (P00#) will increase on the PFV display
    6. Once the video is collected, ramp the flow back down to 0 and wait ~5 seconds
    7. Repeat steps D through F at least 5 times
    8. Once you are done collecting, click ‘Stop Trial’ and wait for all your data to save
    9. Now is the time to change your trial conditions (extension %, degree of closure, what have you)
    10. Repeat steps A through H for your new condition
12. You have finished collecting data on this larynx – clean everything up.
13. Thompson, J. D., Hoffman, M. R., Scholp, A., Devine, E. E., Jiang, J. J., & McCulloch, T. M. (2017). Excised larynx evaluation of subthyroid cartilage approach to medialization thyroplasty. The Laryngoscope.