

## **Supplemental Material S1. Bolus holding sample script.**

### **Pre-Training Assessment**

"Take a sip of water and hold it in your mouth for a few seconds. Then swallow it all at once whenever you're ready. Ready? Go ahead..." Repeat five times. "For those sips you took, how many times do you think the water spilled into your throat before you swallowed?"

### **Education**

"Now, turn and look at the screen. Those white strips of tissue at the center of the screen are your vocal folds. That area at the top of the screen is the back of your throat and the area at the bottom of the screen is the back part of your tongue. Now, when you eat and drink, we frequently see foods and drinks enter your throat before you start your swallow. While this can be normal for many people, for you, we think it may be contributing things going down the wrong pipe. So, what we want to try to today is to teach you to start your swallow before any foods and drinks enter your throat. Understand? Ready? Let's begin."

### **Biofeedback Training**

"Take a sip of that water and hold it in your mouth. It's colored with food dye so we can see it on the screen. Keep looking at the screen and try not to let any of the colored water spill into your throat. Just hold it in your mouth while looking at the screen. Then, when after a few seconds, swallow the water but don't let us see any of the colored water drip into your throat. After you swallow, I will ask you how you think you did. Ready? Go ahead..." Provide cue to swallow. "Did you hold the sip of water in your mouth or did you seem some of the water in your throat before you swallowed?" Wait for response, then share your feedback. "I agree. There we saw

some of the colored water in your throat before the screen went white from the swallow. Let's try it again. Remember to keep looking at the monitor and try your best not to let any of the colored water show up on the camera before the screen turns white from the swallow. Ready? Let's try again." Repeat as needed.

### **Removal of Biofeedback**

"You're doing great. Now let's make things a little more challenging. Let' do the same thing, but this time, do not look at the monitor. Turn away, take a sip, and don't let spill into your throat. Ready? Go ahead." Provide cue to swallow. "Did you hold the water in your mouth without letting it spill into your throat before you started the swallow?" Wait for response, then share your feedback. "I agree. That time you kept it all in your mouth before you started the swallow – great work. Let's try it again without looking. Ready? Go ahead." Repeat as planned.

### **Post-Training Assessment**

"Great work today. We are all done with the practice. But let's end with a little test to see well you learned to do this. Do not look at the screen. Let's do five more sips of what we just practiced. Ready? Let's go."