

Supplemental Material S2. Data collection procedures: additional details.

Supplemental Cues & Reinforcement

In order to facilitate participants’ completion of the kinematic protocol, supplemental verbal/visual cues and positive verbal reinforcement were provided on an as-needed basis. Supplemental verbal cues (e.g., “Back and forth,” “One side to the other”) served as a reminder of general task instructions, which may also be used in clinical situations (e.g., the Marshalla Oral Sensorimotor Test allows clinicians to cue with select phrases such as, “All the way to the right and all the way to the left”; Marshalla, 2007, p. 21 of Stimulus Easel). If a greater level of support was necessary, the experimenter provided a visual cue of holding up a finger and moving it back and forth to represent alternating lateralization of the tongue. While drawbacks of this visual cue are acknowledged (e.g., it could influence rate of movement if participants timed their lateralizations to the cue), this was judged to be preferable to providing an experimenter model of alternating tongue lateralization since potential variation in the live model—particularly, variation in jaw stability—could become a confounding variable. Visual cues related to the rest and opening postures were also provided as needed, including hand signals (e.g., hand help up to signal “stop” during rest, opening gesture with the hand) or more supportive models to demonstrate keeping the tongue external to the mouth during these phases of the protocol. Positive reinforcement was limited to general, encouraging comments such as “Great, keep going!”

Procedure for Additional Attempt (if Required)

While the majority of participants (31/39, 79%) only required one attempt at the kinematic protocol, there were two scenarios where up to two attempts or the equivalent number of blocks was allowed: (1) if a participant needed to have the tongue marker removed before completing the four blocks in the protocol; (2) if a participant completed the protocol but a brief review of the kinematic recording revealed problems with tracking the tongue marker, either due to technical reasons or because the marker had become wet and stopped reflecting. In both scenarios, a new tongue marker was placed before the new attempt at the protocol. If a participant did attempt the protocol more than one time, only the data from one attempt (i.e., one tongue marker placement) was used; the data was never mixed across attempts since marker positioning on the tongue tip could have varied slightly. The decision regarding which attempt to analyze was based solely on which contained the most usable data.

Reference

Marshalla, P. (2007). *Marshalla Oral Sensorimotor Test*. Greenville, SC: Super Duper Publications.

