



Dear Parent,

Your child has been invited to take part in a research study comparing several forms of therapy for “r” errors. In intensive motor-based treatment, a speech-language pathologist provides auditory models and verbal cues to help the child achieve a good “r” sound. In acoustic biofeedback treatment, a computer is used to create a visual representation of a child’s “r” sound, which can then be compared against a model “r” sound. In ultrasound biofeedback treatment, ultrasound imaging is used to create a picture of a child’s tongue, which can be compared against an ultrasound image of a correct “r” sound. All of the treatment methods used in this study have been shown to be effective in previous research. We want to compare these methods against one another to find out which is most effective.

We are looking for children/adolescents who:

- Are 9-15 years old
- Are native speakers of English
- Have difficulty producing correct “r” sounds
- Have no major history of hearing impairment or developmental disorder (e.g., Down syndrome, cerebral palsy, autism spectrum disorder, etc.)

What your child will do:

- All evaluation and treatment sessions will take place in our lab setting. Our protocols follow local, state, and CDC COVID-19 safety regulations and guidance.
- Prior to enrollment, your child will participate in an inclusion evaluation. The initial evaluation to determine eligibility may take up to 2 hours. For children who qualify, up to two additional evaluation sessions up to 2 hours in duration will also be scheduled before treatment. Participants will be compensated for their time during evaluation sessions at a rate of \$20/hour. During the evaluation, we may perform the following:
 - Hearing screening
 - Standardized tests of speech and language
 - Speech production tasks
 - Perception tasks (auditory and oral sensory)
- This study has three phases.
 - In the first phase (1 session, ~2 hours long), your child will work with a speech therapist who will verbally cue him/her to produce “r” in various contexts.
 - After the first phase, your child will be randomly assigned to one of three treatment conditions: intensive motor-based treatment, ultrasound biofeedback treatment, or visual-acoustic biofeedback treatment.
 - In the second phase (3 sessions, ~1.5 hours each, over the course of roughly one week), your child will work with a speech therapist who will use the randomly assigned treatment method to cue your child to produce “r” in various contexts.
 - In the third phase (16 sessions, ~45 minutes each, over the course of roughly eight weeks), your child will continue to work with a speech therapist who will use the randomly assigned treatment method to cue your child to produce “r” in various contexts.



- After the completion of the study, your child will be asked to complete a follow-up evaluation that will be similar to the evaluation for inclusion.

What you will do:

- Fill out a questionnaire about your child’s developmental history, language experiences, and socioemotional response to his/her speech difficulties.
- If your child enrolls in this study, we will ask you to withdraw him/her from any other therapy targeting the “r” sound for the duration of the study. However, therapy targeting other goals is permitted. We are happy to speak with your child’s speech-language pathologist to make a plan for uninterrupted delivery of services.

How long it will take:

- Participation in this study will require your child’s attendance for 2-3 sessions per week over approximately 12 weeks.

What you and your child will receive:

- All therapy services provided are free of charge.
- Participants will be compensated for evaluation sessions at a rate of \$20/hour.
- During treatment sessions, you/your child will receive \$5 per session to cover transportation costs.

You will be asked to sign a written permission form that will explain the study and your rights in more detail.

If you are interested in enrolling your child or have any additional questions, feel free to contact us using the contact information listed below. Thank you for your time!

Syracuse University Speech Production Lab
Dr. Jonathan Preston, Director
speechproductionlab@syr.edu
(315) 443-1351