Achieving "R" ticulation

February 2018, Lexington, KY KSHA
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Financial Disclosure Statement

Relevant Financial Relationships

- I am the President of Artic Bites, LLC
- I am the inventor and patent holder of the Bite-R.

Relevant Nonfinancial Relationships

- I am the author of the Manual, *Tactile Therapy for the Remediation of the R sound* The therapy concepts are mine.

Agenda:

I. The problems associated with the R sound. Why bother with R?
II. Tactile Devices
III. How Tactile Therapy is used to help the R sound
IV. Analyzing Words (How do we know what to do in therapy)

Learner Outcomes

1. The learner will be able to determine the effects of an incorrect tongue tension and incorrect lip, jaw and tongue placement during speech production.
2. The participant will be able to determine the movement needed to correct the disordered R.
3. The learner will review a variety of tactile tools in order to be a better consumer of therapy devices.

THE PROBLEMS ASSOCIATED WITH THE R

- Sounds of the disordered R
- Skill deficits of Children with disordered R sound
- Why is it Educationally Relevant
- Eliciting vs. Maintaining the R sound

What are the characteristics of children with R disorders?

Sound Errors

w/r wabbit
uh/er teachuh
oh/er teachoh
ow/ar cow/car

Puppet mouth

Skill Deficits

Inconsistency

They can produce the R clearly in the speech room and then stand up to leave….NO R!

Perception issues

They don't recognize that their sounds are incorrect but can recognize the mistake if you produce it.

Some Research about R

- Schuster 1998-
- Perception of /r/ found that when children's productions were edited to make the /r/ correct, children were not able to perceive their own /r/ as correct.

Imitation skills

They can't imitate volitionally.

How do we work with kids who can't…?

* feel the location of their own tongue
* see our tongue once the teeth are closed
* imitate the sound
* perceive the accuracy of the R
* inconsistent in accuracy

The problem with R: Educational Relevance

- **21st Century Skills include strong communication skills.**

The studies show disorders of reading/writing and spelling with children who have both language and a long history of phonological processing disorders.

Tom and Barbara Ehren, University of Central Florida (2008 ASHA convention)

- They discuss the possible adverse effects on a student's education in the areas of:

- Academics/Learning-
  reduced participation, difficulties with oral presentations, trouble reading aloud, career paths selected with the least amount of communication skills.

Tom and Barbara Ehren, University of Central Florida (2008 ASHA convention)

- Social-emotional functioning-
  reluctance to speak to adults in authority, decreased ability to negotiate teasing and bullying.

- Independent Functioning-
  decreased ability to express opinions, r distortion detracts from the message.

Examples

- Comments from a 21 year old about opinions.
- Comments from a 24 year old job advancement.
- Comments from a 21 year old misconceptions.

Video

- https://youtu.be/3bqJ8IOURBM

More problems to consider: Part 3

- We have looked at inconsistencies, skill levels, educational relevance.
- Now we have to look at the difference between Eliciting an R and Maintaining. Both come with their own problems.

Eliciting versus Maintaining

ELICITING VS. MAINTAINING

Sources for Eliciting using Traditional Therapy

- Kuster, Judith https://www.mnsu.edu/comdis/kuster2/therapy/rtherapy.html
- **Eliciting Sounds: Techniques and Strategies for Clinicians** 2nd Edition by Wayne A. Secord (Author), Suzanne E. Boyce (Author), JoAnn S. Donohue (Author), Robert A. Fox (Author), Richard E. Shine (Author)

What does it take to elicit an R?

Position of the Articulators for R

Tip Up R (Retroflex)

Lips: *Slightly protruded*	**Jaw:** *Almost Closed*	**Tongue:** *Body of tongue raised and the tip is curled upwards but the bottom of the tongue tip is not in contact with the alveolar ridge*

Position of the Articulators for R?

Back R (Retracted)

Lips: *Slightly protruded*	Jaw: Almost Closed	Tongue: *Tongue back lateral edges raised with a groove down the center of the back of the tongue.*

Boyce and Schmidlin, 2008
Using Ultrasound with Therapy for Resistant /R/

21 ***different*** tongue positions for a correct /r/.

Boyce and Schmidlin, 2008
Using Ultrasound with Therapy for Resistant /R/

All r's have (at least) three constrictions:

Pharynx

Lips

Somewhere along the palate

What do studies suggest we need for an R

Byun and Hitchcock, 2012
Investigating the Use of Traditional and Spectral Biofeedback Approaches to Intervention for /r/ Misarticulation

To rule out the effects (collectively of previous therapy,)they taught artic of /r/ in a 4 week stretch to decrease cognitive load.

Week 1

American /r/ is typically produced with rounded lips (Bernhardt & Stemberger, 1998)

Week 2:

Tongue tip placement taught by dragging the tongue tip backward along the alveolar ridge. (Shriberg 1975).

Week 3:

Jaw stability (Shriberg, 1980)

Week 4:

Produce /r/ with high level of tension (Delattre & Freeman, 1968)

Week 5/6:

Used to integrate all of the movements

Freedman, Maas, Caligiuri, Wulf & Robin, 2007

Found that speech performance is more accurate and less variable when an external focus of attention is adopted. (motor movement)

Explaining /R/ mis-articulations

- How performing a dialect can be like a speech disorder

What about Dialects and vowel sounds?

- Let's have a dialect

"A woman is like a tea bag – you never know how strong she is until she gets in hot water."

Eleanor Roosevelt

How do our students with R disorder produce vowels…or where?

How do we work with our students who don't elevate their tongues?

How we treat sound Patterns

- A-R O-R I-R E-R OO-R
- Focus is on Movement.

Motor movement, tension develop the Feel of the R

The Feel of the R becomes the awareness of the R accuracy.

Maintaining the sound production

- Once you teach the R, it can be difficult to get carryover.

What do you need to maintain the R sound?

~~You need the ability to move the articulators quickly and efficiently.~~

~~You need the ability to hear the R sound apart from the vowel sounds.~~

You need a motor memory of the movements needed to make the R sound.

- Susan Haseley, 2013

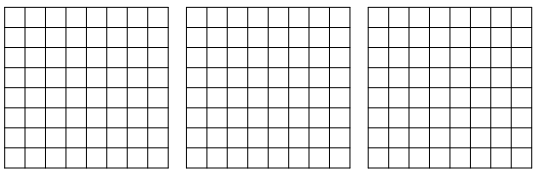
Maintenance may be due to lack of stability

McLeod,Sharyanne, (2009, November) Speech Language Pathologist's Knowledge of tongue/palate contact for speech sound assessment and intervention. American Speech Hearing Association, New Orleans.

240 slps in Austrailia

- Most had never seen or used electropalatography
- Asked to show on a graph where their tongues were placed for speech sounds.

Where does your tongue make contact for the following sounds: t, n, l



McLeod, S (2009, November) Speech Language Pathologists' knowledge of tongue-palate contact for speech sound intervention. Invited seminar presentation in *Clinical tools for representing speech productions: Transcriptions and beyond*. ASHA, New Orleans, USA.

Identification of tongue palate contact: SLPs accuracy

Most accurate 80%: h, p, f

Some accuracy 20%: k, g, ŋ

Least accurate (in order):t, r, z, n, ʃ, s, ʒ, j, v, θ, d, m, b, w, ð, tʃ, dʒ

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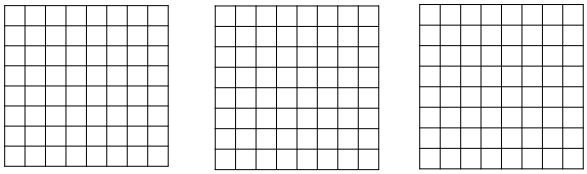
t n l



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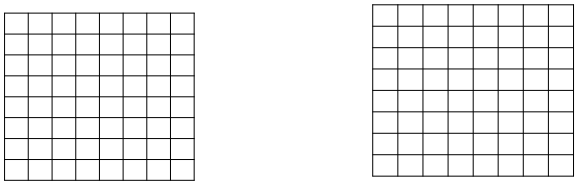
R L



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What does this mean to me and my student?

- The student needs to have the placement and tension correct for the WHOLE tongue.

Our new mantra:

We want to teach the child their R…

Not the R we know how to teach.

Why are children having the problems with the R

- Eliciting: Placement: Jaw, Lips, Tongue Tension: tongue
- Perception: poor
- Mouth Awareness: poor
- Imitation skills: poor due to perception
- Maintenance: poor due to lack of coordination of placement/tension and surrounding sounds

Tactile Devices

What do I need to teach the child to feel their tongue position and the tension?

How can I get a tongue placement & tension along with the jaw placement/lip placement?

Does my student have the cognitive ability to follow instructions and answer questions?

An understanding.

- I am here to give you information so that you can become confident in your choices of therapy styles.
- I am not here to critique to explain fully others' devices. I wouldn't want them to explain my device.

Myths about tactile devices

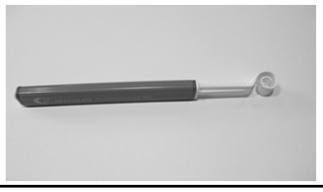
1) You don't need a speech pathologist.
2) The Device makes the R sound.
3) If the child can't make the R sound, the device isn't working.

Tactile devices teach.
Depending on the device, you will get different teaching techniques.

DEVICES

SPEECH BUDDY

- Website: www.speechbuddy.com
- Cost: $124 for a single use device
- Promises sentences in 4 hours of therapy.
- Provides videos and support online
- Device is used by SLP
- There are apps for r words
- Device is held by therapist while student talks with device in the mouth.



DEVICES

Smart Palate

- Up to $3,000.
- $89 a month to parents to lease
- http://completespeech.com/
- Parent support

Devices

The Bite-R

- www.bite-r.com
- Single client use device
- No homework given
- No parent use
- Cost is $31.50/ single
- Start Up kit is $101.25
- Most students are able to improve on the first session.

Start Up Kit

The Bite-R

Tactile Therapy

How Tactile Therapy differs from Traditional?

TRADITIONAL	TACTILE
• Predominantly focused on sound imitation • The child focuses on imitation • The child is asked to "do it again" when he is unable to imitate.	• Predominantly focused on creating tongue tension • The child focuses on his/her lip movement, jaw movement and tongue movement • The child is asked to tell what he did with his lips/jaw/tongue when he misarticulated

Self monitoring

TRADITIONAL	TACTILE
• Self monitoring is taught later in therapy	• Self monitoring is taught first session • Self monitoring includes a description of movement of lips, jaw and tongue

How did the Bite-R get developed?

- Tension...

How can Tactile Therapy Help my student?

Tactile therapy gives the student who doesn't perceive his /r/ production a chance to feel the /r/ instead. The Bite-R gives a tongue tension and position that helps the student produce an acoustically perfect /r/.

Tactile Speech Therapy is therapy in which the focus is on the motor movement of the tongue, lips, and jaw. The student is taught to describe the location, and position of the articulators, particularly when moving from one sound to another.

- Susan Haseley, author of Tactile Therapy for the Remediation of the R Sound, 2013

What do we want from the tongue?

- We want the tongue to be able to move independent of the jaw and lips. Why? When the tongue rests on the base of the jaw and doesn't move, it doesn't constrict airflow near the palate, creating a "flat" /r/ sound. (Let's do that now)
- We want the tongue to be tense. Why? Again in order to constrict airflow for the /r/ sound.
- We want the tongue to move backwards. Why? To be able to elevate/constrict closer to the soft palate for words including the velars.
-

FAQ's

- Do you talk with the Bite-R in the mouth?
- Which /r/ does the Bite-R teach?
- Can parents use this?
- What about homework?
- Do I have to put it in their mouths?

Disclaimer: The Bite-R will not help everyone. Like every product it is not a miracle.

STAGES OF THERAPY

OVERVIEW OF STAGES → SPECIFICS OF SESSIONS

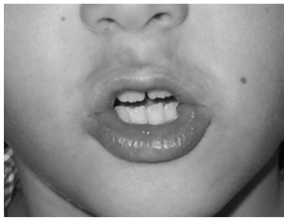
Therapy

Stages of therapy

- Dissociation
- Tactile Therapy
- Customization
- Conversation

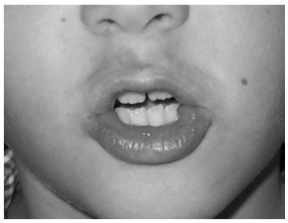
dissociation

Critical to success of the R.



dissociation

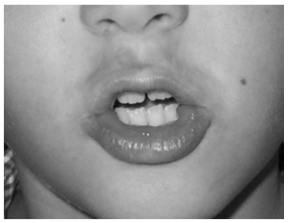
Critical to success of the R.



It is important to note that this is not the lip position during spontaneous conversation. Our students need A Position that offers jaw, lip stability.

dissociation

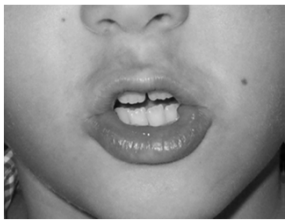
Critical to success of the R.



So, while in the early stages of Bite-R use, it is critical that lips be stabilized away from the teeth to give maximal feel and accuracy of R sound.

dissociation

Critical to success of the R.



Once the child has a stable R sound in certain words. You will move towards repetitions and automaticity. The only time lips are mentioned is if the child pulls them in and creates distortion.

dissociation

Ways to "fake" dissociation

Associated movements
- stabilizing neck instead of jaw
- raising lower lip instead of lifting tongue
- opening jaws instead of lifting tongue

Pushing against the teeth instead of retracting

Tactile Therapy

- You will begin talking to the child about the location of the articulators.

AR Using Tactile Therapy

- "Ah" (Part, Hard, Start)
- Ask the child to say, "Pah" **silently** and then tell you the location of the tongue tip, the jaw/teeth and the lips.
- Now ask them to do it again….**silently** and add the Bite-R position.

Customization?

Gives the child the ability to have a "go to" position for more challenging words.

Customization

Work and Girl

These two usually need customization the most.

Let's try it incorrectly…

Keep your tongue blade down and tongue tip anchored to gum line…

Now say both words.

Customization

Work and Girl Ideas:

1) Ask the child to keep the tongue tip down, but to take the tongue blade and make close contact with the hard palate.

2) Ask the child to "rock the tongue forward" while keeping the tongue tip down.

3) Ask the child to start in a "sh" position for both words.

Customization

Let's try to make it simple.

If you hear: "gargle" or "turbulence"

Tip is high and the back is down (bottom of the tip may be touching the hard palate.)

Customization

If you hear: "oo" like in hook

Tongue blade is down (likely the back is down.)

Ask the child to push the tongue forward–we are simply looking for up. But telling them to use the tongue tip as an anchor may help them make the movement.

Customization

If you hear: clicking or slushy sounds

It is likely the tongue blade is touching the hard palate.

Customization

If you hear: an L sound

The tip is high.

Sometimes our students will make contact with the bottom of his tongue tip rather than the top. When that happens you will hear a gargle with the l sound.

CONVERSATION

RULES:

Pay attention to neck, jaw and lip movements. We do not want the student stabilizing his jaw by tensing his neck.

You NEVER have the child talk with it in his mouth.

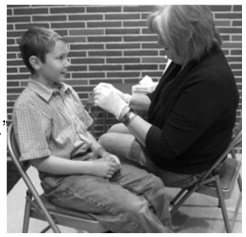
RULES:

You need the lips to protrude correctly at the beginning. This is important.

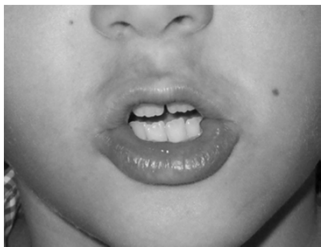
Once the child can make the posture easily with no extraneous movement; there is no need for the Bite-R.

How does the Bite-R work?

- Chairs are arranged.
- Hands sanitized.
- Gloves on.
- Child is told about the Bite-R
- Child is shown the "stop technique."
- Bite-R inserted.
- Bite-R removed.
- Bite-R position used.



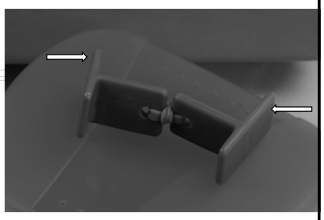
- This is the correct Bite-R position.



Inserting the Bite-R

Always ask permission before inserting the Bite-R. Trust is important.

Hold by the tall uprights. Place the short side between the cheeks and gums. Ask the child to bite gently.



Inserting the Bite-R

- Ask the child to protrude the lips in a “sh” (square not rounded) shape.
- Tell the child to use the front part of the tongue to grab the elastic and pull it up and back.
- Then say spit it out.

SAFETY PRECAUTIONS

Describe what will happen to the child prior to the experience.

Uncomfortable

Mouth Positions

The First Session

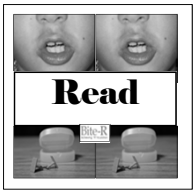
Uncomfortable and exciting all in one.
Be Organized
Plan for time, you will want it and need it.
If at all possible, see the student individually for the first session.

Therapy sessions

It is important to get all the words read. It is easier if you have one student in a session.

Therapy sessions

1 Student:
Pre-read is completed.
Bite-R inserted starting every 2 words,
then moving to every 5
then to 10 and then repetitions on to sentences.



If the client says:
Wred or weed He is not using the Bite-R position. It is likely his bottom lip is above his lower teeth. Encourage him to use the Bite-R position and check to see if you can view his lower teeth during the /r/ production.
Uhread The body of his tongue is down with either the lip anchored on the lower gumline or up near the alveolar ridge (which also means the back of his tongue is down.) Ask the student to go to Bite-R position but you may need to get him to understand contact with the back of the mouth. Ask the child to make a "uh" sound or a "g-g-g" sound and ask if he can feel the contact in the back of the mouth. If so, ask him to use the Bite-R Position and tell him that his tongue back is supposed to make contact with the soft palate.

Therapy sessions

1 Student:
First Session:

- The SLP is inserting the Bite-R.
- In order to avoid cross contamination, the child will do all the recording and flipping of the cards.
- Benefits…you begin using the same scoring. 2 = correct, 1= close approximation 0=not an r.

Therapy sessions

1 Student:
Following sessions:
Pre-Read is completed.
No homework is given.
Same 30 words used each time.

Therapy sessions

1 Student:
Following sessions:

When you develop a word that the child cannot produce:

Check to see if the child is using the Bite-R or going back to old patterns.

Therapy sessions

1 Student: Following sessions:

2) If the child is using the Bite-R position and cannot say the word without the pause, you need to begin tactile therapy.

Try the individual sounds in the word silently focusing on the mouth postures and the transitions to and from the R sound.

Therapy sessions

1 Student: Following sessions:

3) If you can get the movements add the sounds.

4) If there isn't carryover then try the customization approaches.

How to handle therapy with more than 1 R student

- Patience. Organization and clear directions will help here.

More than 1 R student in therapy

- Organization:
- Get your materials together.
- If it helps, have a tray or paper plate with the Bite-Rs, hand sanitizer, gloves, germicidal cleaner, charting forms and pencils.
- Have it available for the students.

More than 1 R student in therapy

- Pre-read: 10 for each student. Remember if modeling was all it took, then we wouldn't be talking about this kind of therapy.

More than 1 R student in therapy

- Inserting: Try to do the first inserting individually. If you can't. Pick the calmer, more brave child.

Pre-Read: Both will take turns. Child A then B, Then B starts and so forth. Make sure the cards are in the same order as the form.

Inserting: Each does their own inserting.
UNLESS:
1) they are uncomfortable with it

2) they don't want to do it

3) They are doing it wrong—chewing it, using their lips to seat it, using their tongue to seat it.

Analyzing Words

Methods to Analyze:

- What do you do with your tongue, lips and jaw before and after the R for each of these words?
- Can You see/hear what the child is doing with the articulators that is different?
- Can you make the sounds the way they do?
- Can you make your /r/ near where they have their tongues?

LET'S MAKE THIS SIMPLE

WHEN AN R IS MISARTICULATED- THERE IS ALMOST ALWAYS ONE r more OF 4 ISSUES INVOLVED:

jaw placement
lip placement
tongue placement
tongue/ mouth tension

Initial R: Read

Placement/Position issues:

Lips:
Rounded,
Bottom Lip Elevated

Initial R: Read

Tongue:
tip up back and body down,
tongue tip on lower gum line and back and body down.

Jaw:
Open midway,
Open fully

Tension:
Tongue: Too lax

PRACTICE card words- try, erase, through

What can go wrong?
Lip Placement:
flat
rounded

Jaw Placement:
open,
clenched

PRACTICE card words- try, erase, through

Tongue Placement:
flat,
low

Tongue Tension:
flat,
low

PRACTICE card words- try, erase, through

How to help it?
How do you make the /g/ sound?

Girl- Let's work this one out for ourselves

- Lip Placement: what could go wrong
- Jaw Placement:
- Tongue Placement:
- Tongue Tension:

- How to help it

Work- Let's work this one out for ourselves

- Lip Placement: what could go wrong
- Jaw Placement:
- Tongue Placement:
- Tongue Tension:

- How to help it

Troubleshooting

That kid who just doesn't seem to get it:
Let's look at what he is doing.
Get a feel for his tongue position.
Is there muscle weakness?
Why is the tongue where it is?
Is the tongue changing the voice- pitch higher? Weird resonance?
Why doesn't the child have tongue awareness? Are they pushing on the elastic band instead of retracting it? Are they just touching it?
Can they describe the feeling they have across their tongues?

Troubleshooting

- Are they using their lips to stabilize? Is it in the correct position? What happens when they go to speak? Is there deterioration with repetitions?

Do you feel like you have it under control now?

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