Effective Evaluation and Intervention Procedures for Frontal and Lateral Lisp Disorders™

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Course Objectives

• Participants will know the characteristics of the 4 types of lisp disorders.

• Participants will name the two possible tongue placements for /s/ and /z/.

• Participants will list the 22 variations for /s/ and /z/, initial and final /s/ blends.

• Participants will know at least one technique to elicit tongue placement.
Presentation Overview

- Targeted for all levels of knowledge.
- Evaluation procedure (s).
- Specific treatment strategies.
Course Objectives

- Know how to evaluate and treat the various word positions of the sibilant sounds: (s, z)
- Know how to use co-articulation to elicit correct tongue positioning.
- Be able to write measurable and objective IEP goals.
- Identify 2 placements techniques
- Identify natural tongue positioning for /t/, /n/, /l/ and /d/.
- Know difference between frontal and lateral lisp disorders.
There are 4 Types of Lisp Disorders

1). Interdental (frontal) lisp
   • /s/
   • /z/

2). Dentalized Lisp disorder

3). Lateral lisp disorder

4). Palatal lisp disorder
Interdental Lisp Disorder

• /s/: the voiceless th is substituted for /s/ (tongue comes in between the top and bottom front teeth)

• /z/: Voiced /th/ is produced for the /z/. 

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Dentalized Lisp Disorder

- The tongue rests on, or pushes against, the front teeth, the airflow is directed forwards, Producing a slightly muffled sound.
Lateral Lisp Disorder

3). Lateral lisps are not found in typical speech development. The tongue position for a lateral lisp is very close to the normal position for /l/ and the sound is made with the air-flow directed over the sides of the tongue.

Because of the way it sounds, this sort of lisp is sometimes referred to as a 'slushy ess' or a 'slushy lisp'. A lateral lisp often sounds 'wet' or 'spitty'.
Palatal Lisp Disorder

- Not found in typical speech development.
- Mid-section of the tongue comes in contact with the soft palate, produce a 'h' closely followed by a 'y', and prolong it.
Typical Age of Development /s/ and /z/

- Typically developing children dentalised variants of /s/ and /z/ until around 4½ years.

- Lateral lisps are not characteristic of normal development.

- Palatal lisps are not characteristic of normal development
## Initial /s/ Clusters Age of Acquisition

<table>
<thead>
<tr>
<th>Initial Cluster</th>
<th>Age of Acquisition</th>
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<tr>
<td>sp st sk</td>
<td>7;0</td>
</tr>
<tr>
<td>/sm sn/</td>
<td>7;0 7;0</td>
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<tr>
<td>/spr str skr/</td>
<td>9;0 9;0</td>
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</table>
Age of Acquisition for Lateral Lisp

- Not developmentally appropriate.
- Begin intervention immediately
- (Jen Taps)
Two Types of Lisp Disorders

Frontal

Lateral
Frontal Lisp

- Most common.
- Also called interdental lisp.
- Trademark sound - /th/.
- Cause: Tongue is protruding too far forward. May actually be visible during speech.
- Goal: To bring tongue tip back.
Frontal Lisp/Phonological Disorders

- In my experience when working on establishing the reduction of initial /s/ clusters, many students front the /s/ phoneme.
Initial /s/ blends in Phonological Intervention

- Often success with these sounds help predict more complex sounds.
Lateral Lisp

• Less visible, more audible problem.

• Caused by tongue in wrong location (too low) allowing air to escape (primarily from sides of the mouth).

• Sound produced is often “wet” or spitty. Sometimes called a “slushy S.”

• Goal: Focus air stream out front of the mouth.
Evaluation and Intervention for Lisp Disorders

- Evaluation and treatment for frontal and lateral lisps are similar.
- Correct production of both frontal and lateral lisps disorders is in the alveolar ridge region/behind bottom front teeth.
- Use student’s strengths to elicit misproduced phonemes.
22 Total /s/ and /z/ Variations

- Initial, medial and final /s/: 3
- Initial, medial and final /z/: 3
- Initial /s/ clusters: 7
- Final /s/ clusters: 9
Categories of /s/ & /z/ 

- Initial, medial and final /s/ and /z/
- Initial /s/ clusters
- Final /s/ clusters
Initial /s/ Blends

- sp (spin)
- st (stump)
- sl (slim)
- sn (snail)
- sm (small)
- sk (skate)
- sw (swing)
- str (string)
Final /s/ Blend Clusters

- -fs (coughs)
- -sts (forests)
- -ps (cups)
- -sps (wasps)
- -ks (makes)
- -sk (mask)
- -sks (asks)
- -st (fast)
Start With a Comprehensive Evaluation

- Evaluate initial, medial and final /s/ and /z/ + initial /s/ blends to attain a comprehensive understanding of student’s ability.

- Establish frontal or lateral lisp disorder.

- Establish natural tongue positioning for /t/. 

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<table>
<thead>
<tr>
<th>Sights</th>
<th>Sounds</th>
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<td>skis</td>
<td>bikes</td>
<td>skis</td>
<td>skis</td>
<td>bikes</td>
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</tbody>
</table>
Evaluate all 22 Variations of /s/ and /z/ 

• To determine natural tongue placement.
Check for Presence of Front teeth

- Top front teeth
- Bottom front teeth
- Essential for placement

Choosing a Target

• Based upon correctly produced word (s) and word position (s).
Correctly Produced Word List

- sun
- sat
- spot
- best
- task
- busy
Tongue Placement is Key To Success

• /s/ sound in correctly produced words needs to sound crisp before moving onto phrase and sentence level

• Use correctly produced words to reinforce placement
There are 2 Placements for /s/ and /z/

• 1). Alveolar ridge

• 2). Behind bottom front teeth
There are Two Possible Tongue Placements for /s/ and /z/

- Tongue tip up behind top front teeth.
- Tongue tip behind bottom front teeth.
- Middle of the front and bottom teeth can also occur and lead to distortion
Alveolar Ridge Tongue Placement

• /s/ and /z/ can be produced at the alveolar ridge region - (right behind the upper front teeth)
Lower Tongue Placement for Lisp Disorders

• Tongue tip behind lower front teeth.
Which Tongue Position is Better?

- Both are equal and the better one for your student is the placement being naturally used in
  - Correctly produced words
Contrast Two Possible Tongue Placements

• Decide which is more comfortable for student (example: sat vs. hats).

• Method: Take correctly produced words and see where the natural placement is.
Contrast correctly Produced Words with Misproduced Words

• Ask student where tongue placement is for both productions:
  • Top
  • Middle
  • Bottom
Plan Intervention

- Base intervention on results of screening.

- Consistently focus only on ONE target until mastered.

- Choose appropriate elicitation techniques.

- Use phonetically consistent probe lists.
How can students work together in a group?

- **Frontal lisp:** Have other students watch for tongue protrusion (visual).

- **Lateral lisp:** Students listen for sharp vs. slushy speech.

- **Tongue placement is same regardless of disorder.**
Big /s/

Directions: Instruct the student to color in the “S.” This activity provides a tactile and visual stimulation for the student when producing the /s/ sound.
Auditory, Tactile and Visual Cues for /s/ and /z/

- Slide finger down arm during production practice.
- E.g. *snake sound* color or trace a large “s” use snake cue – wavy motion.
Commonalities About /s/ & /z/

- Cognates. Have same placement and production with the exception of voicing.
- Airflow restricted or released by tongue causes production and common “hissing” sound.
- Different spellings, same production.
Elicitation Techniques (Co-articulation)

- Use the other consonants to facilitate production.

- E.g. Tan silo pens
  Feel sad reads
/n/ final + /s/ Initial = /s/ Medial Words

Tan silo
Choices of Elicitation Techniques

• Exploded /t/ or /ts/.

• /ts/ final words, phrases and sentences.

• Straw to demonstrate placement (frontal lisp).

• Co-articulation

• Alveolar target exercises.
Intervention for Initial /s/ Clusters

• Jen Taps article-phonology can predict other sounds

• If student had correct placement with one or more initial /s/ clusters
/sp/ Initial Single Words

Directions: Say each word slowly. Make sure to elongate the initial /sp/ sound. Mark the speech/homework block as appropriate for correct pronunciation.

spider  spaceship

Speech ___  Homework ___  Speech ___  Homework ___

spot  spear

Speech ___  Homework ___  Speech ___  Homework ___

spool  spill

Speech ___  Homework ___  Speech ___  Homework ___
Activity: Forest

Directions: Instructor should make up a word list. Instruct the student to repeat the words. If a word is pronounced correctly, the student colors in a tree. If response is incorrect, the instructor colors in a tree.

- chest
- wrist
- beast
- pest
- east
- west
- twist
- forest
- artist
- cast
- breakfast
- last

Final /st/ Production Practice
Teaching Placement for /z/

• Teach /z/ if student can correctly produce on initial screening

• After all other /s/ and /s/ blends have been mastered and it is the last thing
Techniques for Teaching /z/

- Humming Bee breath
- Voiced consonant rule
Humming Bee Breath

- Place hands over the ears
- Close eyes
- Hum and say /z/. Listen and feel the vibration from the humming.
- Hum and say /s/. Listen and feel
- Compare how the /s/ and /z/ felt and sounded.
Voiced Consonant Rule

• In English when there is a voiced consonant preceding the final “s” the /s/ is pronounced as a /z/.

<table>
<thead>
<tr>
<th>Voiced Consonants</th>
<th>Pronounced as /z/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom’s</td>
<td>runs</td>
</tr>
<tr>
<td>bills</td>
<td>Buzz’s</td>
</tr>
<tr>
<td>badges</td>
<td>legs</td>
</tr>
<tr>
<td>spurs</td>
<td>Bob’s</td>
</tr>
<tr>
<td>gloves</td>
<td>cars</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Non-Voiced Consonants</th>
<th>Pronounced as /s/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rick’s</td>
<td>banks</td>
</tr>
<tr>
<td>maps</td>
<td>shirts</td>
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<tr>
<td>Matt’s</td>
<td>clinics</td>
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<tr>
<td>links</td>
<td>rats</td>
</tr>
<tr>
<td>fluffs</td>
<td>laughs</td>
</tr>
</tbody>
</table>
Voiced Consonant Rule:
When a word ends in a:
/b/, /d/, /g/, /m/, /n/, /r/, /v/ & /z/
the final /s/ is pronounced as a /z/.

For Example:
combs   cans
folds   cars
legs    sleaves
hams    breezes
Contextual Pronunciation

As a noun or adjective it’s [s]:
- use
- diffuse
- device
- spouse
- misuse
- house
- advice
- abuse
- excuse
- close

As a verb it’s [z]:
- use
- diffuse
- devise
- espouse
- misuse
- house
- advise
- abuse
- excuse
- close
Elicitation Techniques (Co-articulation)

• Use the other consonants to facilitate production.

• E.g.  Tan silo  pens
       Feel sad  reads
/n/ final + /s/ Initial
= /s/ Medial Words

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Choices of Elicitation Techniques for /s/

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Name: ___________________________ Date: _______________________

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- **spider**
  - Speech __________ Homework __________

- **spaceship**
  - Speech __________ Homework __________

- **spot**
  - Speech __________ Homework __________

- **spear**
  - Speech __________ Homework __________

- **spool**
  - Speech __________ Homework __________

- **spill**
  - Speech __________ Homework __________
## Activity: Forest

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<table>
<thead>
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<th>Name:</th>
<th>Date:</th>
</tr>
</thead>
</table>

- **chest**
- **wrist**
- **beast**
- **east**
- **west**
- **forest**
- **artist**
- **cast**
- **breakfast**
- **pest**
- **twist**
- **last**

**Final /st/ Production Practice**
Sometimes the /z/ is devoiced after remediating /s/
Vowel Ending Rule:
All vowels are voiced. When a word ends in an /s/ and the preceding sound is a vowel, the plural /s/ is pronounced as a /z/.

For Example:
bees
does
sews
lays
Cognates /s/ and /z/ 

voiced (bus) 

vs. 

voiceless (buzz)
Send Home Productive Homework

1. Practice natural tongue position by sending home correctly produced words.

2. Letter to parent explaining
   1. Tongue position for their child
   2. Practice only correctly produced words.
Challenges to Success

- Wrong tongue position.
- Tongue thrust.
- Dental Issues (Missing top front teeth).
- Thumb sucking continues.
How do you know when to dismiss a student?

- When students are able to say all /s/ and /z/ variations with at least 80% mastery at the sentence level.
- When students, parents, and teachers report it is no longer a problem.
- When articulation needs can be addressed at home or in the classroom.
Questions?
references