The Entire World of Sibilants

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Presentation Overview
- Targeted for intermediate level of knowledge. However, encompass entry-level to experienced clinicians.
- Review S & Z first, then SH & CH, J, ZH.
- Evaluation procedure.
- Specific treatment strategies.
- Case study examples.

Course Objectives
- Know how to evaluate and treat the various word positions of the sibilant sounds: [s, z, ch, sh, j, and zh].
- Know how to use co-articulation to elicit correct tongue positioning.
- Be able to write measurable and objective IEP goals.
- Be able to identify 3 elicitation techniques
- Identify natural tongue positioning for /t/, /n/, /l/ and /d/.
- Know difference between frontal and lateral lisp disorders.

What is a Sibilant
A consonant characterized by a hissing sound.

S, Z, SH, ZH, CH, and J

Facts About /s/ & /z/
- Cognates. Have same manner and production with the exception of voicing.
- Airflow restricted or released by tongue causes production and common “hissing” sound.
- Different spellings, same production.

Facts About [s] & [z]
[s] spellings
S as in soup
C as in city
Sc as in science
X as in box

[z] spellings
s as in pans
x as in xylophone
z as in zoo
Two Types of Lisp Disorders

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

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.

Possible Causes of a Lisp Disorder
- Thumb sucking
- Tongue thrust
- Dental (front teeth missing)
- Cleft palate issues

EW S & Z Approach to Lisp Disorders
- Evaluation and treatment for frontal and lateral lisps are similar.
- Correct production of both frontal and lateral lisps disorders in the alveolar ridge region/behind bottom front teeth.
- Use student’s strengths to elicit misproduced phonemes.

Categories of /s/ & /z/
- Initial, medial and final /s/ and /z/
- Initial /s/ clusters
- Final /s/ clusters
**Initial /s/ Blends**
- sp (spin)
- shr (shrimp)
- st (stump)
- sl (slim)
- sm (small)
- sk (skate)
- sw (swing)
- str (string)
- sn (snail)

**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 ALL /s/ and /z/’s in ALL positions to attain a comprehensive understanding of student’s ability.
- Establish frontal or lateral lisp disorder.
- Establish natural tongue positioning for /t/.

**Choosing a Target**
- Check stimulability for /t/ and /ts/ final word productions.
- Find natural tongue positioning.

**Why establish natural tongue positioning for /t/?**
- Because /t/ and /s/ have the exact tongue placement.
- You are using the student’s success to elicit incorrect or improper tongue placements.
- To practice student’s natural tongue positioning.
Where do you produce /t/?

- At the Alveolar ridge?
- Behind the bottom front teeth?

Why not just refer to /s/ as /s/?

- Goal: To set student up for success by using phonemes with similar production as /s/ or /z/.
- Student often goes back to “old” sound production.
- Want to establish a new sound pattern.

Tenets for /s/ and /z/ Approach

- Treat frontal and lateral lisp disorders in a similar manner.
- Focus on one target at a time until corrected.
- Use elicitation techniques to establish tongue positioning.
- Choose new target at 80% accuracy at sentence level.

Plan Remediation

- Base intervention on target selected.
- Consistently focus only on target until corrected.
- Choose appropriate elicitation strategies matched to target selection.
- Use phonetically consistent probe lists.

Why focus on one sound and word position at a time?

- Enhances motor planning.
- Provides consistent practice & repetition.
- Ensures students know their goal.
- Allows productions of other /r/ word combinations not yet targeted to begin to generalize.

Begin Remediation

Isolation
Single words
Phrases
Sentences
Reading/Structured Conversation
Conversational Speech
Cues to use with /t/ and /ts/ final words

- Sharp not slushy sound.
- Feel difference of tongue placement.
- Slide finger down arm while producing phonemes.

Auditory, Tactile and Visual

- Incorporate a multi-modality approach to learning. Involve as many senses as possible.
- E.g. snake sound color or trace a large “s” use snake cue – wavy motion

Big /s/

Choices of Elicitation Techniques

- Exploded /t/
- /ts/ final words, phrases and Sentences
- Straw to demonstrate placement.
- Elicitation Techniques
- Alveolar target exercises

/ts/ Final Single Words

/ts/ Final Phrases
Final /ts/ Sentences

Bill wants the kites.
Tom Bates bought new pants.
Garrett’s new darts are next to the weights.

/ts/ Final Stories

Robert’s dad coached the little league team, the Mets. The Mets needed new equipment. They bought a few bats and nine mitts. The batter tried out the new bats and the catcher tried out the new mitts. Robert’s dad called out, “Now we’re ready.” “Let’s play ball and get lots of hits!” “Let’s go Mets!!”

Elicitation Techniques

- Sibilants are produced at the alveolar ridge region (behind the lower front teeth) as are other consonants - /l/, /n/, /d/. Use the other consonants to facilitate production.
- E.g. Tan silo pens
  Feel sad reads

Shaping an /s/ from a phoneme combination

- Show the student screening results to educate student about the /s/ & /z/ variations she can say.
- Use results of screening to determine appropriate elicitation techniques.

/t/ Final Sentences + /s/ Initial words

- Example: Cleo, the cat said meow.
- Coarticulation used to stimulate medial /s/.
- If successful (80%) correct productions, try medial /s/ words (e.g lasso).
/n/ final + /s/ Initial = /s/ Medial Words

Tan silo.

/l/ Final +/s/ Initial = /s/ Medial Words

Darren will sail today.

/ls/ Sentence with /s/ Initial in Isolation

I feel sad today. → sad today
Darren will sail Monday. → sail Monday

If successful (80%) accurate, try initial /s/ words (e.g. sun).

When to move onto next sound/word Position

- Once a word position for target /s/ is mastered (criterion is 80% for 5 consecutive sessions at sentence level), re-administer screening to assist in choosing the next target.
- Re-administer advanced screening to choose next intervention target.

Case Study: Sally

- Sally Morris is a 7 year-old second grader at Seaford Avenue Elementary School.
- She is referred due to not being able to pronounce her /s/’s.
- The sibilants each have voiced cognates. Each sound has a twin, with the only difference being one sound is voiced (vocal cords vibrate) while the other is voiceless.

- Sally cannot produce any /s/’s correctly.
- The SLP determines that she has a Frontal Lisp Disorder.
Sally’s Remediation Strategy:

- Teach “exploded /t/.”
- Practice /ts/ final words.
- Alveolar target exercises—/ns/, /ls/.
- /s/ in initial, medial, final word positions.
- Initial blends and final clusters.

/s/ Blends and Final /s/ Clusters

- Initial Blends: /sp/, /str/, /sl/, etc.
- Final Clusters: /sk/, /sp/, /sks/, etc.
- Treat as necessary to correct specific articulation disorders.

Final /st/ Exercise

Voiced Consonant Rule

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

When to move onto /z/

When all word positions and clusters for /s/ are 80% or greater at the sentence level
Voiced Consonant Rule:

When a word ends in a:
-/bl/, /dl/, /gl/, /lm/, /nl/, /rl/, /lw/ & /lw/

the final /s/ is pronounced as a /z/.

For Example:
combs, cans
folds, cars
legs, sleeves
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

/s/ and /z/ Activity: Plural Endings

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, bees
does, does
lays, lays

Cognates /s/ and /z/

voiced (bus) vs. voiceless (buzz)

Tenets of /s/ and /z/ Approach

- Focus on one target at a time until it is corrected.
- Choose elicitation techniques according to selected target.
- Eliminate elicitation techniques as quickly as possible.
- Choose new target once carry-over has been achieved.
- Try to elicit 150 responses per session.
Always review previously mastered sounds

- Check for stabilization and generalization
- Beginning of each therapy session
- Use previously mastered sounds to help teach new sounds
- Use well produced sounds to increase self-awareness of correct productions

How can students work together in a group?

- Frontal lisp: Have other students watch for tongue protrusion (visual)
- Lateral lisp: Student’s listen for sharp vs. slushy speech.

Reasons for Lack of Progress

- Wrong Target. If student is not making progress in the first two sessions, try another target.
- Not completing homework.
- Unable to move past mastered targets due to misunderstanding.

Send home appropriate homework

1. Practice natural tongue positioning to reinforce kinesthetic awareness.
2. Send home words that the student can consistently say perfectly in therapy.

Ways to Measure Student Progress:

- Briefly review previously mastered targets to check for retention.
- Use screening tool to collect current data and evaluate direction of therapy.
- Use rating system (1 to 5) for each sound production.
- Use Daily Data Collection or Daily Tally Sheets to measure progress day to day.

Challenges to Success

- Wrong target
- Tongue thrust
- Missing top front teeth
- Motivation
- Has not acquired auditory and kinesthetic awareness.
**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.

**Review: Intervention**

- Treat only one target until mastered with criterion of 80% at sentence level over 5 consecutive sessions.
- Re-evaluate.
- Select new target and treat.
- Continue until all sounds correct.
- Review and reinforce.

**EW S & Z Strategy**

1. Evaluation – Use Screening Kits
2. Interpret the Evaluation results
3. Kinesthetic Awareness – client must have an awareness of tongue in mouth.
4. Phonemic Awareness-hissing sound
5. Use student’s strengths-Begin Remediation
6. /ts/ tactile and visual cues
7. Final /ts/
8. /ts/ phrases and sentences
9. Alveolar Phonemic production zone - /ls/ and /ns/
10. /s/ tactile and visual cues
11. Medial and final /s/
12. Initial /s/
13. Follow remediation hierarchy
14. Initial /s/ blends
15. Final /s/ clusters
16. Don’t forget /z/ - students may devoice. (voiced consonant rule)
17. Structured conversation
18. Review and reinforcement

**Questions?**
The Entire World of SH & CH™

Course Objectives
- Know how to evaluate and treat the various sibilants.
- Know how to use correctly produced phonemes to elicit misproduced phonemes.
- Write measurable goals and objectives.
- Be able to identify 3 and implement elicitation techniques.

Sh, Ch, J & Zh
- Produced at the palato-alveolar region. Just slightly posterior of S & Z production area.
- Sh and Ch are not voiced.
- Zh and J are voiced.

Sh & Zh
- /ʃ/ as in ship and /ʒ/ as in measure.
- Described as “continuant fricative sibilants” for the steady, friction produced hissing sound emitted.
- There are very few Zh words and no words in the initial position in English.

Ch & J
- /ʧ/ as in chop and /ʤ/ as in judge
- Traditionally called “affricates” since airflow is completely stopped at some point.
- The /ʧ/ is a combination of /ʃ/ and /t/.
- The /ʤ/ is a combination of /ʒ/ and /d/.

Cognates

<table>
<thead>
<tr>
<th>Voiceless</th>
<th>Voiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ʃ/ - shoe</td>
<td>/ʃ/ - measure</td>
</tr>
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<td>/ʧ/ - chose</td>
<td>/ʤ/ - job</td>
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</tbody>
</table>
**Spelling Challenges**

- **Ch** as in church
- **T** as in picture

- **J** as in jump
- **G** as in passage
- **D** as in fudge
- **D** as in soldier

**Start with a Comprehensive Evaluation**

- Evaluate ALL sibilants in all word positions.
- Attain a comprehensive understanding of student’s ability.
- Establish correct and incorrect productions.

**Sh, Ch, J & Zh Remediation Screening Results**

*Three basic outcomes:*
- All four target phonemes are misarticulated.
- **Ch** and **J** are misarticulated.
- **Sh** and **Zh** are misarticulated.

**Choosing a Target**

Treat the misproduced sibilants by using the successfully produced phonemes to elicit the misproduced phonemes.

**Sh, Ch, J & Zh Remediation**

- Each action uses combination clusters to approximate the target sounds.
- For example to obtain a **ch** medial sound, combine a **/t/** final word with **/j/** initial word such as “get you.”

This produces a **ch** medial sound.
Plan Remediation

- Base intervention on target selected.
- Consistently focus only on target until corrected.
- Choose appropriate elicitation strategies matched to target selection.
- Use phonetically consistent probe lists

Tenets of Treating SH & CH

- Focus on one target at a time until corrected.
- Use elicitation techniques to elicit misproduced phonemes.
- Choose new target after 80% accuracy has been achieved at the sentence level.

Don’t be compelled to remediate in any particular order.

Approximate Phonemic Production Zone Assists

Using one sound with same placement to elicit the target sound desired.

Elicitation Techniques for ch & j

Ch: /t/ final + [y] initial = ch medial  
Get + you = getchew

J: /d/ final + [y] initial = j medial  
read + your = readgour
Elicitation Techniques for sh & zh

- **Sh Medial**: [ch] final + [sh] initial = [sh] medial
each +shark = each**sh**ark

- **Zh**: After you have established correct productions of [sh]
demonstrate the voicing differences.

Voiced vs. Voiceless Cognates

<table>
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Samples of visual and auditory cues

- Finger up to mouth and say “shhh” the baby is sleeping
- **Big Ch**

Case Study: Sharon

- Sharon Miller is five year-old kindergartner at Carrillo Elementary School.
- SLP determines she misproduces [sh], [ch], [j] and [zh]

Case Study: Sharon

- Sharon’s Therapy Strategy:
  - Determine Stimulability
    - Test stimulability for [ch] by combining /t/ + /j/ as in “bet you” or “get you.”
    - Test stimulability for [sh] by combining /s/ + /j/ as in “kiss you” or “place you.”
- Sharon shows stimulability for [sh] because “kiss you” elicits [sh]
Use ability to produce [sh] medial to create [sh] final and [sh] initial

Case Study: Sharon

- After working on [sh] medial address [sh] initial and final positions.
- Remediate [ch] using [sh]. Use [t] + [sh] initial or [n] + [sh] initial combinations.

Case Study: Sharon Goals

- IEP Goal:
  Sharon will produce [sh] and [j] with 80% at the sentence level for 5 consecutive times accuracy as measured by SLP tally.
- Working File Goal:
  Sharon will produce [sh] medial at 80% accuracy at the sentence level for 5 consecutive times. The next target will be [sh] initial and then [sh] final. [j] will be treated with voicing techniques after successful production of [sh].
**Always review mastered sounds**

- Check for stabilization and generalization
- Beginning of each therapy session
- Use previously mastered sounds to help teach new sounds
- Use well produced sounds to increase self-awareness of correct productions

**Reasons for Lack of Progress**

- Wrong Target. If student is not making progress in the first two sessions, try another target.
- Not completing homework
- Unable to move past mastered targets due to misunderstanding

**Ways to Measure Progress**

- Briefly review previously mastered targets to check for retention.
- Use Daily Data Collection or Daily Tally Sheets to measure progress day to day.
- Re-administer screening.

**EW Sh & Ch Strategy**

1. Evaluation – Use Screening Kits
2. Interpret the Evaluation results
3. Begin Remediation – using intervention targets
4. Use auditory, tactile and visual cues.

**Summary**

Use the elicitation techniques to facilitate proper production of target sounds.

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Questions?