

TREATING RESISTANT TO TREATMENT ARTICULATION ERRORS & ISSUES

Julia J. Hoffmann, M.A., CCC-SLP
Assistant Clinical Professor
Saint Louis University
ARSHA Convention, April 12, 2014

THOUGHTS

- every sound is easy to teach until you get a client who cannot produce the sound -- even after you have tried all your "tricks"
- you would think it would be smooth sailing once the sound is facilitated ---however that is not always the case

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SPEECH ERRORS & ISSUES

1. articulation sound errors
2. multisyllabic words errors
3. poor connected speech intelligibility
4. suprasegmental issues
5. lack of self-monitoring

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ARTICULATION ERRORS

- vowel errors (obvious & subtle)
- fronting of "k, g" and "-ng"
- consonant cluster reductions
- omission of sounds
- interdental or dental "s, z" (frontal lisp)
- lateralizing "s, z, sh, ch, j" (lateral lisp)
- gliding of /l, r/ all positions
- vowelization of final "R" (singleton & blend)
- substituting "t, d, f, v, s, z" for the "th's"

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MULTISYLLABIC WORDS

- numerous assimilations (progressive & regressive)
- omitting sounds & syllables; elision
- metathesis & migration
- vowel reductions/neutralizing
- addition of sounds
- difficult to produce in connected speech

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CONNECTED SPEECH

- speech intelligibility decreases
- overall poor pronunciation
- some slurring of words
- rate of speech increases
- speech errors appear (i.e. fronting, consonant sequence reductions, etc.)
- possible VPD issues

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SUPRASEGMENTALS

- excessive or equal stress in two or more syllable words, sentences & connected speech
- lack of 'naturalness' in connected speech
- lack of prosodic variation & intonation
- inappropriate pausing
- inappropriate loudness levels
- poor rhythm, timing & rate

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SELF-MONITORING

- does not take the listener's lack of understanding into account
- lacks awareness of how own speech sounds
- does not attempt to self-correct speech errors
- does not slow rate of speech
- cue dependent

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ARTICULATION ERROR ISSUES

- negatively impacts self-esteem
- failed communication with others
- difficult peer interactions
- lack of involvement in school
- may affect choice of educational opportunities or career

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BURN-OUT ISSUES

- years of speech therapy
- lack of progress
- need for continued therapy – overwhelming; feelings of hopelessness
- lack of intrinsic motivators
- lack of commitment

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ARTICULATION SOUNDS

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UNDERSTANDING SPEECH ISSUES

Want client to:

- know what his errors are
- hear & feel the difference between correct and error sounds

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NEGATIVE PRACTICE

- practice errors step by step in slow motion
- talk about what he is doing & what needs to change for a correct production
- increased awareness to errors hopefully will increase carryover of correct sounds

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TRIAL & ERROR

- relax tongue or tense tongue
- jaw grading posture (how open or closed?)
- lip movements

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RE-ENACTMENTS OF SOUNDS

- “re-enactment” of close approximations or correct productions
- attempt same placement & manner for sound immediately after accurate production

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DESYNTHESIS & SYNTHESIS

- use to eliminate incorrect consonant
- pause between sounds
- variations with pausing for blends
- avoid epenthesis
- increase synthesis quickly

Example: “f----oot”--- “f--oot”--- “foot”

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JAW & TONGUE DIFFERENTIATION

- achieve jaw stability with bite block or use of jaw resting on hands---allows tongue to do the work
- vary placement of bite block
- jaw grade—determine how much mouth opening
- teach client to move tongue without jaw

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VOWELS FOR SYLLABLE PRACTICE

CV, VC, CVC, VCV

- ay, ee, eye, oh, oo
- eh, ih, ah, uh, short a
- ow, aw, oy, ou

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VOWEL WORK

- identify error patterns
- note tongue height, tongue advancement, lip rounding, tense/lax
- minimal pair work (i.e. “bet” vs. “bit”)
- compare words in writing (i.e. pine, pin)
- audio record for immediate feedback
- practice in unison
- give silent mouthing cues

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DRILL

- 100 correct responses in 30 minutes
- specific sound and position in word practice (i.e. chain, chop, chew, etc.)
- mixed sound and position in word practice (i.e. chew, push, sun, etc.)
- blocked/random & mass/distributed practice
- increase/decrease complexity
- provide challenging contexts

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RESOURCES

- *Frontal Lisp, Lateral Lisp* (Marshalla, 2007)
- *Successful R Therapy* (Marshalla, 2007)
- *Sparc R and S* (Linguistics, Inc.)
- *40,000 Selected Words* (Blockolsky et al.)
- *Articulation and Phonology Resource Guide for School-Age Children and Adults* (Smit, 2004)
- *Webber Jumbo Articulation Drillbook* (SuperDuper, Inc.)

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“R” WORK

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FACILITATING /r/

- must achieve an accurate /r/ sound before moving forward
- bunched vs retroflex
- Speech Buddies
- tongue tension
 - trick with a toothette
- tongue –jaw differentiation
 - jaw stability with bite block

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INITIAL CONSONANT /R/

/r/ initial word choices

- if velars are present: ring, rock, rug, wreck, rake, rack, rig, rag, Rick, raccoon, racket, rocket
- if velars are not present: red, rod, run, ran, rush, rash, rot, rat, rich
- initially avoid bilabial endings (i.e. rib) and rounded vowels following /r/ (i.e. wrote, road)
- avoid words with another /r/ present or an /l/, especially final /l/

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MEDIAL /r/ (--VCV--)

- move to medial /r/ after /r/ initial has been established
- VCV: treat the /r/ as an initial /r/ (i.e. “si—ren”, “be—rry”, “fo—rest”) rather than a final /r/ (i.e. “sir—en”, “berr—y”, “for—est”)
- put together quickly (i.e. “siren”, “berry”, “forest” so it is a mix of initial & final /r/)
- make sure your medial target words do not have VCC (i.e. “barn”) rather than VCV (i.e. “parrot”)

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INITIAL /r/ BLENDS

- “tr-, dr-, kr-, gr-, pr-, br-, fr-”
- “shr-; “thr-”
- “str-, skr-”
- many SLP’s work on “kr, gr” first due to velar placement close to /r/ placement at back of hard palate
- teach as a blend (i.e. “tr-ain”; “cr-own”)
- do not pause between consonant and /r/

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FINAL “R”

- many vocalic final ‘R’s seem to have on-glide and off-glide movements
- AIR, IRE, ARE: 1. open mouth (jaw open, tongue down), 2. close teeth (jaw closed, tongue up), 3. lips smile (retract lips)
- EAR: 1. teeth almost closed (jaw almost closed, tongue up for /i/), 2. close teeth (jaw closed), 3. smile big (retract lips, tongue pulls back)
- OR: 1. round lips (tongue down), 2. smile with closed teeth (jaw closed, tongue pulls back)

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FINAL /r/ TARGET WORDS

- are: bar, car, far, jar, par, star, tar, scar
- air: care, fair, pear, stare, hair, bear, dare, share
- ear: deer, fear, hear, near, tear, year, steer, gear
- or: door, four, pour, more, sore, tore, store, core
- ire: fire, hire, wire, tire, umpire, choir

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FINAL SCHWAR (-er)

- typically the most difficult of the final /r/ sounds
- teach one syllable words first and then 2 syllable words
- -er one syllable: her, sir, fur, stir, burr, were, purr
- -er two syllable: doctor, dancer, sister, catcher, other, teacher

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HIGH FREQUENCY FINAL /r/ WORD LIST

for	other
her	more
threw/through	or
before	from
after	are
over	their/there
first	

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FINAL VOCALIC /r/ BLENDS

As final /r/ emerges, begin working on final vocalic /r/ blends (-rt, -rm, -rf, -rd, -rp, -rg, -rn, -rs, -rb, -rk)—examples:

- are: cart, part, park, art, mart, carp
- or: port, court, pork, mourn, born
- ear: beard, weird, steers, geared
- air: cared, paired, stared
- ire: fired, hired, tired, wired
- er: work, turn, first, stern, perk, hurt

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INCREASING COMPLEXITY OF /r/

- pairing /r/ and /w/ in same words (worry, rewind, beware, word, power)
- pairing /r/ and /l/ in same words (rules, relay, lark, sealer, laser, real, ruler, rural, refiller)
- pairing multiple /r/'s in words (rear, roar, murder, crier, mirror, prairie)
- difficult words with /r/ and final blend /l/ (girl, world, swirl, pearl)

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FINAL "L" WORK

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FINAL /l/ WORK

- be sure to teach final /l/ as a 'dark' or 'velarized' /l/ rather than a light /l/---otherwise final /l/ sounds "different"
- use a more closed mouth posture
- do not allow added 'uh' after final /l/ -- common problem as client exaggerates sound (i.e. ball-uh, hill-uh) ---hold the /l/----practice with /l/ slightly lengthened so no chance of "uh" addition

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FINAL /l/ WORK

- 1ST → target final /l/ as only final /l/ (-VC) (i.e. bill, hall, file, yell)
- 2nd → target final /l/ in blend (-VCC), (i.e. hold, felt, called)
 - final /l/ blends include: /-lt, -lk, -lp, -lm, -ld, -ls, -lf, -ln/, etc.
- practice in phrase and sentence contexts quickly after word level to help the /l/ sound more natural

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VELOPHARYNGEAL DYSFUNCTION WORK

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VELOPHARYNGEAL DYSFUNCTION (VPD)

- Condition in which the velopharyngeal valve (VP) does not close consistently or completely during production of sounds
- ⊙ Determine if velopharyngeal mislearning (poor VP closure due to learned misarticulations)
- Determine if VPI
 - insufficiency: structural defect
 - incompetence: neuromotor or physiological issue related to poor movements of the VP structures (i.e. dysarthria)
 - inadequacy: inability to close off VP valve

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RESULTS OF VPD

- hypernasality (too much nasal resonance—especially with vowels, glides, liquids)
- nasal emission (air escaping through the nose as sounds are produced)
- hyponasality (too little or no nasal resonance on vowels and nasal sounds)
- affects overall articulation and speech intelligibility

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DECREASING VPD

1. teach differences between “mouth sounds” & “nose sounds”
2. increase mouth opening with speech
3. increase or decrease volume with practice
4. keep working on articulation & sequencing of sounds
5. decrease rate to allow child to complete movements for velopharyngeal closure

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DECREASING VPD

- practice words (i.e. CVC—bat, fish, wide, pod) without any nasal consonants to close velo-pharynx
- practice words (i.e. CVC—mat, can, shame, etc.) with a nasal and other consonant to open and close velo-pharynx
- practice words (i.e. CVC—make, keen, nag, gone)with a velar and nasal to open and close the velo-pharynx with back sounds
- sound loaded nasal words (i.e. man, noon, name) and phrases emphasizing opening of velo-pharynx

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VELAR WORK

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VELARS /k/ & /g/ WORK

- attempt to establish velars often –takes time to develop for some kids
- ability to hold an open mouth posture necessary
- hold client’s head back slightly; press down on the mid & front of the tongue with a tongue depressor/bite block/toothette; hold depressor against bottom front teeth to give you some leverage
- attempt either /k/ or /g/ in isolation first

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VELARS /k/ & /g/ WORK

- glottal sound okay to start with
- try an airy, noisy /h/
- have client anchor tongue against lower teeth
- produce the “ee” + “k” several times quickly

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Fronting of “-ng”

- ‘shortening’ (fronting) the “-ing” to “-in” is common for “-ing” words (i.e. runnin’, jumpin’, callin’)
- ‘shortening’ is not appropriate in many other words ending in “-ng” as it changes meaning (i.e. strong, wrong, sing, hang)
- typically clients have little awareness of this problem---building this awareness for use is crucial

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Fronting of “-ng”

- holding front of tongue down with a tongue depressor so back of the tongue raises
- working from a noisy, hard swallow at the point of the velum
- working from a voiced /g/ to voiced “ng”---- start to say /g/ but stop at the “stop” portion for the stop plosive /g/--then, make a sound
- do not allow client to pronounce the final “g” in words with “-ng”

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Fronting of “-ng”

- practicing VC syllables first (-ang, -ung, -ong, -ing)
- use “words” with only initial /k, g/ (gang, king, gong, kang, ging) to promote “backness”
- using sound loaded sentences are helpful (i.e. “King Kong played a strong game of ping pong!” OR “The young boy from Hong Kong sang a beautiful song.”)

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FRONTAL & LATERAL LISPS

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LATERAL LISPS PROBLEMS

- blade of tongue pushing up on hard palate or back of alveolar ridge
- sides of tongue are dropped and not against inside of top molars
- jaw slightly dropped or unstable
- no tongue groove (or a poor groove) is present
- air escapes over the sides of the tongue and sometimes over the top of the tongue
- resulting sound: slushy, imprecise, airy, turbulent

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FRONTAL LISP PROBLEMS

- most common lisp
- related to maturation for some children
- tongue protrudes through teeth or against teeth as jaw slightly drops
- forward tongue carriage
- missing teeth and other dental issues may play a role in the presence of a frontal lisp
- often mouth breathers
- resulting sound: lispy, airy, distorted

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SO.....

- need to improve or create a sagittal groove with a coffee stirrer
- stimulate tongue, alveolar, molar areas with a tongue depressor as needed
- get instant jaw stability with bite block

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LATERAL & FRONTAL LISPS

- Is the lisp only causing articulation issues?
- check for possible tongue thrust
- complete an oral motor exam—check: overall tone, size of tonsils, tongue posture at rest, mouth breathing, noisy sleeper, trouble breathing through nose, jaw stability, dentition

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LATERAL & FRONTAL LISPS

- analyze what is happening to the lips, jaw, tongue during production of sounds
- need to address tongue position at rest as soon as possible!
- sometimes it is difficult for a client to get used to the tongue position at rest or the 'new' sounds they produce without the lisp

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THERAPY FOR STRIDENTS

- stimulate the tongue during practice with a tongue depressor (sides, mid, etc.)
- teach resistance to increase jaw stability
- masseter muscles tightening (smile)
- 'feel' & 'hear' the differences between errors, close approximations, & correct sounds

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THERAPY FOR STRIDENTS

- important to review the sounds first without much cuing—then increase cues as needed
- use a correct strident to help establish another strident
- working from a "t" to the /s/--very common
- remove tactile cues as soon as possible
- counting from 60 to 79 in practice
- increasing rate of speech with best productions

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PALATAL STRIDENTS

- move from 's' to 'sh' (smile to pucker)
- using anterior /s/ & posterior palatal /j/: 'sh' → /s/ + /j/ (i.e. /s-ju/ or /s-ji/) produced with puckered lips & increased speed
- 'ch' → /t/ + /j/ (i.e. /t-ju/ or /t-ji/) produced with puckered lips & increased speed

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PALATAL STRIDENTS

- for "ch": combine words ending in /t/ & beginning with "y" (i.e. 'bet you' → 'betchoo'; 'don't you' → 'don'tchoo'; 'get you' → 'getchoo')
- for "sh": use pairs like – kiss-you/ bus-you/ mouse-you/ miss-you/ pass-you, etc.
- "Miss _____" with 'sh' words (i.e. Miss Shoe, Miss Shell, etc.)

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MULTISYLLABIC WORDS

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THERAPY: MULTISYLLABIC WORDS

- most commonly used multisyllabic words
- use notebook to write out word & break down word (chunk) (send home for ongoing practice)
- orthographic cues
- slow down productions
- backward buildups (i.e. tion, cation, vacation) & forward chaining (i.e. va, vaca, vacation)
- pronunciation issue not reading issue
- break down words meaningfully

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MULTISYLLABIC WORDS

- work on segmenting—visual/tactile cues (look at phonemic awareness literature)
- tap out each syllable or word, pace board; blocks, clicker
- materials/internet for targeting multisyllabic words
- most common multisyllabic words (Google)

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SEGMENTING EXAMPLES

- "ELLA---MEN----TREE" (ELEMENTARY)
- "FUH---TAH---GRUH---FEE" (PHOTOGRAPHY)
- "JIM---NAH----STICKS" (GYMNASTICS)
- "BASS---KIT---BALL" (BASKETBALL)
- "M---T" (EMPTY)
- "HA---SPIT-AL" (HOSPITAL)

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MULTISYLLABIC WORDS

- <http://www.duboisl.org/EducationWatch/First100Words.html>
(LOOK UNDER EDUCATION WATCH)
- Lesson Pix
- <http://www.esldesk.com/vocabulary/words>
(1000 most common words)
- <http://www.world-english.org/english500.htm>
- <http://www.ontrackreading.com/phonics-program/3-syllable-word-lists>
- <http://www.home-speech-home.com/speech-therapy-word-lists.html>
- http://www.readingfirst.virginia.edu/prof_dev/phonemic_awareness/multi_syllables.html

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CONNECTED SPEECH

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SMALL CHANGES TO CLEARER SPEECH

- significance of FIRST production
- increase volume
- speech slightly exaggerated (pronunciation, more open mouth posture)

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REDUCE & INCREASE RATE

- use of easy speech (stretch) on first words in utterances & words after pauses to improve intelligibility
- desire faster articulatory movements (automaticity of speech) to create natural sounding productions

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INDEX CARD CUES

Tap on cue card for more indirect cuing:

- "FIX IT"
- "STRETCH SPEECH"
- "SPEAK LOUDER"
- "OVERPRONOUNCE YOUR WORDS"
- "USE YOUR 'R' SOUND"
- "TRY AGAIN"

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CARRYOVER

- work on carryover as soon as sound is facilitated
- carryover is main focus of therapy for clients with persistent/residual errors
- increase complexity
 - imitation → spontaneous
 - word → sentence / sound-loaded sentences
 - reading → conversation

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BEST “TALKING” ACTIVITIES

- barrier games
- Hedbanz
- Password
- Guess Who Extra
- fun questions
- topics of interest on the internet
- explaining recipe, routine, movie
- reading tongue twisters

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READING MATERIALS

- Madlibs
- News For You (internet)
- reading a children’s book to a younger group of kids
- Grossology
- Very short mysteries (internet)

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DISTRACTIONS

- benefits of distractions (when? how much?)
- change body positioning (i.e. therapy ball, bean bag chairs, etc.)
- whispered speaking/louder speaking
- purposeful slower vs. faster speaking
- use figurative language with practice
- increase complexity of activity itself (i.e. more challenging game; more thinking involved)
- increase spontaneity of talking activity

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SUPRASEGMENTALS

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THERAPY: SUPRASEGMENTALS

- unison work to match appropriate stress, intonation, loudness
- audio record work
- use bongo drums / clicker to identify stress
- use of stretch boards to decrease rate
- role-playing / character play to work on intonation, pausing
- use ‘dialogue’ or ‘character’ based readings
- use short plays with small groups of kids

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THERAPY FOR STRESS & INTONATION

- use print to ‘see’ the stress (i.e. TAble; geOgraphy); try all syllables for fun to ‘hear’ the differences (i.e. MAcaroni; maCAroni; macaROni; macaroNI)
- use print to show phrase & sentence stress (i.e. I did it!; i DID it!; I did IT!)
- guessing game to identify stress in words (move from more exaggerated to more natural)
- use computer visual feedback for loudness
- work on prosody/stress in asking & answering ?’s

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SELF-MONITORING

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TALK ABOUT SELF-MONITORING

- blatant discussion of what is going on (i.e. lack of awareness, lack of self-correcting, lack of focus, attendance & punctuality to therapy, etc.)
- honest discussion about therapy progression from past, to present, & to future (hopefully completion!)

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AWARENESS

- discuss listener perspective vs. speaker perspective
- discuss listener body language & facial expressions
- discuss & observe speech that brings attention to itself & speech that doesn't
- audiotape client's speech & discuss (iPad Quick Voice app, digital recorder, iPhone, computer, Language Master)
- have client take data based off what you tell him to write down initially

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SPECIFIC FEEDBACK

- provide clear, specific feedback regarding speech errors so client knows what he is doing
- teach client how to fix his own errors so self-corrections can even occur
- teach client made-up acronyms or ways to remember to use particular targets in connected speech (i.e. "SID"-slow it down; "LLL"-look & listen to listener; etc.)
- do comprehension checks to make sure child understands your specific feedback

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JOURNALING

- have client keep a journal related to feelings about speech, communicating with others, and experiences
- discuss journal entries in therapy sessions
- problem solve situations/interactions
- awareness building for self-monitoring

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THERAPY

- get down to business quickly in sessions
- manage time well
- avoid too much extrinsic motivation (i.e. rewards, games)

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THERAPY: BURNT-OUT CLIENT

- relinquish responsibility of therapy
- set gradual progression of goals
- active participation in all sessions (not just practice)
- allow & encourage client to talk about frustration, fears, anger, etc. re: speech issues
- if denial is present, discuss with client honestly

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HOME PRACTICE

- give useful drill practice to increase automaticity (speed) of correct speech (i.e. multisyllabic words)
- give simple, functional activities (to increase self-monitoring of speech)(i.e. have client interview family members / have the family members judge intelligibility)

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**REMAIN
PERSISTENT!**

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