

Aphasia and Music Therapy

MODULE 2

Non-Musical Interventions

- Repetition of single words or sounds
- Automatics
- Supported conversation
- Use of carrier phrases (i.e. "I need _____" "I have ____")
- Picture cues
- Augmentative and alternative communication (AAC)

Constraint-Induced Language Therapy

- Patients are not allowed to use non-verbal aspects of language, such as gestures or writing
- Patients are required to use specific language, rather than general words (i.e. instead of saying "you", saying "Bob")
- Specialized to the patients current level of functioning
- Typically used with non-fluent aphasia

Musical Interventions

Oral Motor Exercises

- Use of rhythmic and harmonic cueing for single vowel sounds
- Helpful to have a visual model
- May need to consider a mirror
- Helpful for initial vocalizations and apraxia

Overlearned Songs

- IMPORTANT: use songs that are overlearned
- May need to use slower songs (especially if they are apraxic)
- Consider having them fill in a word vs. sing the whole song
- Consider using the chorus only
- Standard ones are: Happy Birthday and You Are My Sunshine

Overlearned Songs vs. Speaking

Overlearned Songs

- Words are already known
- Initiation is musically cued
- Fluency is built into the music

Speaking

- Develop a thought
- Think of what words to use
- Construct a sentence
- Initiate the sentence
- Carryout the sentence

Overlearned Songs

- Who is it appropriate for?
 - Expressive aphasia
 - Possibly anomic aphasia
 - Poor initiation

Melodic Intonation Therapy

- Developed in the 1970's by Sparks, Helm and Albert
- Highly specific protocol of multiple steps
- Use of melody (singing) and rhythm (tapping) to train functional phrases

Steps to MIT

- Humming (model then have them join)
- Use of phrase (model then have them join)
- Fade out
- Take turns with the phrase
- Practice in a functional situation

Developing MIT Phrases

- Don't piggyback
- Use words that they would naturally use
- Sometimes slightly longer phrases are easier
- Try to model a natural prosody
- Carrier phrases can be difficult

MIT Tips

- Use hand gestures and limit language
- Give as little support to their hand as possible so that they can get the sensation of tapping
- Consider using a metronome

MIT Tips

- Over-exaggerate your oral motor movements when you model
- Consider using written cues that can go with the patient
- Consider recording the phrase on the patient's phone or tablet

Melodic Intonation Therapy

- Who is it appropriate for:
 - Expressive aphasia

Why music?

Bihemispheric Network for Vocal Production

- Shared activation between speaking and singing occurs in:
 - Inferior pre and post-central gyrus
 - Superior temporal gyrus
 - Superior temporal sulcus bilaterally

- Özdemir, E., Norton, A. and Schlaug, G. (2006) Shared and distinct neural correlates of singing and speaking. *NeuroImage*, 33, 628-635.



Bihemispheric Network for Vocal Production

Speaking

- Inferior frontal gyrus
- Primary sensorimotor cortex
- Middle and posterior superior temporal gyrus and superior temporal sulcus
- Activation stronger in the left hemisphere

Singing

- Additional activations in the mid-portions of the superior temporal gyrus
- Most inferior and middle portions of the primary sensorimotor cortex
- Activation stronger in the right hemisphere

Planning Your Session

Sample

- 1) *Familiar songs*
- 2) Melodic Intonation Therapy - phrase 1
- 3) Functional practice of phrase 1
- 4) Melodic Intonation Therapy – phrase 2
- 5) Functional practice of phrase 2

Sample Goals & Objectives

- GOAL: Articulation
- OBJECTIVE: Given a constant visual model and constant musical cueing, patient will correctly form 3 different vowel sounds. (constant cues are cues needed 80-100% of the time)
- GOAL: Articulation
- OBJECTIVE: Given a constant visual model and constant musical cueing, patient will correctly articulate 1 functional word. (constant cues are cues needed 80-100% of the time)

Sample Goals & Objectives

- GOAL: Functional Communication
- OBJECTIVE: Given a constant musical cue, patient will articulate 10 different words. (constant cues are cues needed 80-100% of the time)
- GOAL: Functional Communication
- OBJECTIVE: Given an initial visual cue, patient will speak a 3-5 word functional phrase in the appropriate situation.

The big picture: Treatment timing

- Rehab literature suggests that the sooner the intervention, the better
- Typically less progress is made when folks are further out from their stroke
- Progress may still be possible in music therapy even when they have plateaued in other therapies

The big picture: Treatment timing

- Consider what their motivations are and what would help them the most
- Consider their personal situation
- Communication difficulties often lead to social isolation
- Stroke survivors are at a higher risk of depression

Other resources

- Apps - SLP may suggest apps that the person can use at home
- AAC devices or picture boards to convey critical information

Rehabilitation vs. Compensatory strategies

Articles and Video Introduction

- ARTICLE: "Melodic Intonation Therapy: Shared Insights on How it is Done and Why it Might Help" (15 minutes)
- ARTICLE: 'Stroke a Chord': The Effect of Singing in a Community Choir on Mood and Social Engagement for People Living with Aphasia Following a Stroke" (30 minutes)
- VIDEO: Neurologic Music Therapy: Stroke Rehabilitation (MedRhythms)
- VIDEO: Music Therapy and Aphasia
