Public Webinar Series

Title: **Atypical Parkinsonian Disorders: Can LSVT LOUD® and LSVT BIG® be effective?**

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Atypical Parkinsonian Disorders: An Overview and Discussion of Application to LSVT LOUD and LSVT BIG

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Disclosures

- All of the LSVT faculty have both financial and non-financial relationships with LSVT Global.
- Non-financial relationships include a preference for the LSVT BIG and LSVT LOUD as a treatment technique.
- Financial Relationships include:
- All of the LSVT Faculty receive consulting fees, lecture honorarium and travel reimbursement from LSVT Global, Inc.
- Ms. Halpern is an employee of LSVT Global.

LSVT FACULTY

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Objectives

Upon completion of this webinar, participants will be able to:

1. Explain advances in neuroscience and impact on the field of rehabilitation
2. Describe Atypical PDism characteristics
3. Describe how clinical factors affect speech of individuals with atypical PDism
4. Provide examples of adaptations used in LSVT LOUD and LSVT BIG for these populations
5. List ways in which treatment strategies can be tailored to meet the needs of people with atypical PDism

Instructor Biographies

Angela Halpern, MS. CCC-SLP
Ms. Halpern is an ASHA-certified speech-language clinician and research associate at the National Center for Voice and Speech in Denver, CO. She received her master's degree in the Department of Communication Disorders and Sciences at the University of Pittsburgh. Ms. Halpern has worked extensively in the area of neurogenic disorders with a specialty in Parkinson disease. She is certified in LSVT LOUD™. In addition to providing speech therapy to individuals with Parkinson disease, she is a faculty member and workshop leader for LSVT Global, Inc. She is also a member of Dr. Lorraine Ramig's research team. As a part of this team she continues to study voice and speech in Parkinson disease.

Heather Cianci, PT, MS, GCS
Ms. Cianci is the founding therapist of the Dan Aaron Parkinson's Rehab Center (a Good Shepherd Penn Partners facility) at Pennsylvania Hospital in Philadelphia, PA. She received her bachelor's in PT from the University of Scranton in Scranton, PA and her master's in gerontology from Saint Joseph's University in Philadelphia. Heather received her GCS in 1999. She is certified in LSVT BIG and is a graduate of the NPF's Allied Team Training for PD. She has written and lectured for both the NPF and PDF. Heather is also a board member for CurePSP, and the coordinator of their Medical Professionals Advisory Committee.

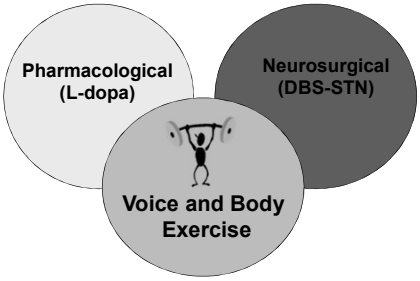
It is a *"Stunning Time"* to be in rehabilitation today

- Basic science evidence for the value of exercise in PD (classically drugs, surgery, today…)
- Identified key principles of exercise that drive activity-dependent neural plasticity
- Demonstrated that exercise can improve brain functioning (neural plasticity) and may slow disease progression
- **Exercise is Medicine!**

Kleim & Jones, 2008; Ludlow et al, 2008

Legitimate Therapeutic Options

To provide symptomatic relief; improve function



Zigmond et al, 2009

Causes of Atypical PDism

- No specific cause has been identified
- Only one member of a family is usually affected
- Thought to be sporadic and not inherited
- Classified according to:
  - patterns of damage they produce in the nervous system
  - constellation of clinical symptoms they cause
  - their natural course
- Dopamine receptors lost; therefore, do not respond to common PD medications (levodopa)

Atypical PDism...

What is considered "Atypical"?

How are IPD and Atypical Parkinsonisms Different?

- Accurate diagnosis = use of precise diagnostic criteria (Mitra et al., 2003)
- Proper diagnosis is important
- Individual treatments will vary depending on the condition
- More rapidly progressive
- Less likely to respond to anti-PD medication than PD (Litvan et al., 2007)
- However, additional features of the diseases may respond to medications not used in PD
- Current tx: focused on multidisciplinary tx of symptoms (Molloy et al., 2007)

Atypical PDism

- Variety of neurological disorders: some clinical features of PD present
- Symptoms are caused by cell and degeneration of cells in parts of the brain that contain receptors that are involved in speech, voice, and body movement
- Cause of their symptoms is different from classic PD:
  - Symptoms similar to PD, including resting tremors, slowed movement, stiffness, gait difficulty and postural instability
  - Also have symptoms and signs not typically present in PD, hence the term "Atypical" or "Parkinsonism syndrome"

Progressive Supranuclear Palsy (PSP)

- Most common form of atypical parkinsonism
- Often have a "worried" or "angry" facial expression
- Early postural instability
- Inability to look up and down (vertical gaze palsy)
- Fall risk
- Cognitive, emotional and personality changes

Multiple System Atrophy (MSA)

- Second most common form of atypical parkinsonism
- Previously also referred to as Shy-Drager syndrome or olivopontocerebellar atrophy
- Presence of autonomic features:
  - orthostatic hypotension
  - early disturbance of sexual, bladder, and bowel dysfunction
  - reddish-bluish discoloration of skin (e.g. the "cold hand" sign)
  - marked sleep disturbance (e.g. acting out of dreams and sleep apnea)

Lewy Body Dementia (LBD)

- Early dementia (preceding or co-occurring with the parkinsonian symptoms)
- Visual hallucinations (seeing people, animals or objects that are not real)
- Fluctuating symptoms , with "good days" and "bad days."

Multiple System Atrophy (MSA)

- Other typical features of MSA include:
  - forward head tilt (anterocollis)
  - body tilt when sitting (pisa sign)
  - loss of coordination, and
  - rapidly progressive course
- Divided into:
  - MSA-C (cerebellar variant) which has more symptoms of ataxia (incoordination) and
  - MSA-P (parkinsonian variant) which has more parkinsonian symptoms but is unresponsive to the usual therapy for Parkinson's disease (levodopa).

Cortico-Basal Ganglionic Degeneration (CBD)

- Present with:
  - asymmetric stiffness
  - apraxia (inability to carry out learned purposeful movements)
  - alien limb (the hand or the leg seem to have "a mind of their own")
  - limb dystonia (abnormal sustained muscle contractions causing abnormal postures and twisting)
- Poor or no response to levodopa is common feature

Vascular Parkinsonism

- Caused by multiple, minute strokes
- More symptoms in lower extremities
  - Difficulty ambulating
  - Balance problems
  - Fall risk

LSVT LOUD for Atypical PDism

What are the LSVT LOUD exercises?

Daily tasks

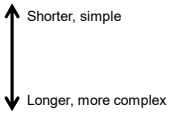
First half of treatment session
Rescale amplitude of motor output through CORE Loud

- ❑ **Sustained "ah" (minimum15 reps)**
- ❑ **High/Low "ah" (minimum15 reps)**
- ❑ **Functional phrases (minimum 50 reps)**

Hierarchical speech tasks

Second half of session
Train amplitude from CORE exercises into in context specific and variable speaking activities

- ❑ **Week 1 – words, phrases**
- ❑ **Week 2 – sentences**
- ❑ **Week 3 – reading**
- ❑ **Week 4 - conversation**



Try four consecutive initial sessions and evaluate impact

Monitor progress in treatment with your SLP

Quantify treatment changes

LSVT LOUD: Gold Standard

Atypical PD patients:

- Greater variability in tx effect
- Show improvement
  - Gains not as significant as IPD
  - Difficulty maintaining tx effects
  - May need to:
    - Increase calibration effort and activities
    - Include family and care partners
    - Emphasize importance of the home exercise program
    - Include more frequent follow-ups and refresher sessions (e.g. every 2 months)

"Pearls of wisdom" for applying LSVT LOUD to Atypical PDism

Stimulability testing

Does "loud" have impact on improving speech, voice, and movement?

Daily Exercises #1 and #2: Loud "ah" and pitch stretches

- May need to spend more time with your SLP shaping voice quality during exercises
- Voice quality may not be as "pretty" or as "shockingly improved"
- Duration may be short
- Medical concerns – COPD, HBP, cardiac patients

Functional Phrases and Speech Hierarchy

- Loudness may be better in speech than sustained phonation
- May need to adjust reading material for individuals with postural, language or visuomotor disorders
- Repeat words and phrases
- Picture/photo description

If you don't feel like you are talking "too loud" you are not talking loud enough!!

Functional phrases and cued speech may be the "maximum treatment goal" for some very severe patients (e.g., MSA)

Evidence Supporting LSVT LOUD for Atypical PD

- Countryman, S., Ramig, L., & Pawlas, A. (1994). Speech and voice deficits in Parkinsonian Plus syndromes: Can they be treated? *Journal of Medical Speech-Language Pathology, 2*(3), 211–225.
- Sale, P., Castiglioni, D., De Pandis, M. F., Torti, M., Dall'armi, V., Radicati, F. G., & Stocchi, F. (2015). The Lee Silverman Voice Treatment (LSVT®) speech therapy in progressive supranuclear palsy. *European journal of physical and rehabilitation medicine*, *51*(5), 569-574.

Calibration

MISMATCH between on-line perception of output and how others perceive it

"I'm not too soft"
"I can't speak like this, I am shouting!!"

Fox et al, 2002; Sapir et al, 2011

Final Suggestions – LSVT LOUD

- Early Intervention is Essential!
- Add telehealth sessions to reduce fatigue from traveling (LSVT eLOUD certified SLPs can be found online at www.lsvtglobal.com)
- Acknowledge fatigue within tx sessions (e.g., validate)
- Advocate for your family member's speech
- Don't give up on the behavioral treatments

LSVT BIG Adaptations for Atypical PDisms

What are some of the symptoms your therapist can work on with you?

LSVT BIG Treatment Session

Maximal Daily Exercises

1.Floor to Ceiling – 8 reps

2.Side to Side – 8 each side

3.Forward step – 8 each side

4.Sideways step – 8 each side

5.Backward step – 8 each side

6.Forward Rock and Reach – 10 each side (working up to 20)

7.Sideways Rock and Reach – 10 each side (working up to 20)

Functional Component Tasks

5 EVERYDAY TASKS– 5 reps each

For example:

- Sit-to-Stand
- Reaching for a drink
- Pull up covers

Hierarchy Tasks

Patient identified tasks:

- Getting out of bed to BSC
- Transferring from w/c to toilet
- In and out of a car

Build complexity across 4 weeks of treatment towards long-term goal

BIG Walking

- with device and help
- may be with w/c

Progressive Supranuclear Palsy (PSP)

Falls, gait, balance, and mobility

"Rocket sign"

- This is when the person with PSP quickly moves from sitting to standing without thinking and falls backwards into the chair

Gaze difficulties, Blepharospasms

Speech & Swallow Changes

Common Adaptations Your Therapist May use for LSVT BIG

- Holding on to sturdy object for support
- Perform exercises in sitting
- Using adaptive devices
- Early carepartner training
- Be careful to limit worsening orthostatic hypotension (MSA)

Multiple System Atrophy (MSA)

1. **MSA-P (parkinsonian):** Often looks like PD
   – *Slow, stiff movements*
1. **MSA-A (autonomic):** Once know as Shy-Drager syndrome
   – *Orthostatic hypotension*
2. **MSA-C (cerebellar):** Looks like ataxia and some PD
   – *Balance, coordination, gait, and mobility*

Corticobasal Degeneration (CBD)

Gait, balance, and mobility

Apraxia
- *Difficulty with performing coordinated movements or using familiar objects*

"Odd movements or feelings"
- *slowness, stiffness, shakiness, clumsiness*

General Points to Remember

- You can always try a week of stimulability testing with your therapist, and then together change your course of treatment as needed
- Remember the importance of fall prevention
- Establish your care team early on for better management of your symptoms

General Points to Remember

- The disease process moves more rapidly than in PD
- Symptoms and presentations can vary greatly
- For idiopathic PD, goal is to restore or improve function through LSVT BIG.
- For atypical PDisms, treatment may be more compensatory focused than restorative

LSVT BIG Examples for PSP

Functional Component Tasks

BIG Sit to Stand – to help with preventing falling backward

Eye gaze and eye lid exercises
- ✓ Tracking a moving target
- ✓ Searching for items in room (hidden tennis balls, objects of a certain color/shape)
- ✓ Reading a passage out loud
- ✓ Naming objects, words, letters, numbers, etc. placed at various levels

- Getting in to a BIG POSTURE and BIG STANCE before performing ADLs, and all parts of LSVT BIG in standing

General Treatment Recommendations

- Begin therapy as early in the diagnosis as possible!
- You should keep regular follow-ups with your therapists
- If you are in the later stages of the disease process with severe symptoms, your therapist may not recommend BIG…however

LSVT BIG Examples with PSP

Functional Component Tasks

- Return to sitting
  - ✓ Practice complete turn in front of chair – NOT reaching before turning
- Side steps (to avoid stepping backwards and falling)
- Turning without pivoting

¼ turn RIGHT: BIG weight shift to LEFT and BIG RIGHT foot step first.

How to get started with LSVT LOUD and LSVT BIG

- Ask your doctor for a referral and a prescription for a speech or physical/occupational therapy **evaluation** and **treatment**
- Visit www.lsvtglobal.com to find an LSVT LOUD or LSVT BIG Certified Clinician in your area
- DVDs available to introduce you to voice exercises used in LSVT LOUD and movement exercises used in LSVT BIG: www.lsvtglobal.com/products or www.amazon.com/shops/LSVTGlobal

LSVT BIG Examples for your Therapist - MSA & CBD

Functional Component Tasks - CBD

- ✓ Movement/Action to counter dystonia (abnormal tone)
- ✓ Movement/Action to help with apraxia
- ✓ Movement/Action to train to particular functional deficits

Functional Component Tasks – MSA

- ✓ Movement/Action to train to particular functional deficits
- ✓ Movement/Action to help with particular symptoms – ataxia, balance, coordination
- ✓ Performing activity that worsen OH in a slower, more deliberate manner

Conclusion

- Remember: There is hope!
- Therapy is essential for PDisms
- Start therapy sooner rather than later
- Have regular follow-ups with therapy
- Establishing your care team early is vital

LSVT BIG Treatment Examples

Hierarchies

- In the later stages of the disease it may that you need to first ask for help and then only move when someone is there to guide you.
  - Getting up from a chair and walking in to the bathroom to use the toilet

Gait

- Using an assistive device
- PSP – setting the eyes before turning
- MSA – dealing with OH before walking

Resources: Atypical Parkinsonisms

www.curepsp.org
www.theaftd.org
www.lbda.org
www.multiplesystematrophy.org

THANK YOU!

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