



Public Webinar Series

Title: Addressing Difficulties with Voice and Activities of Daily Living in Parkinson Disease

**Presenters: Angela Halpern, MS, CCC-SLP
Bernie Kosir, OTR/L**

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Addressing Difficulties with Voice, Speech and Activities of Daily Living in Parkinson Disease



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Instructor Biographies

Angela Halpern, MS, CCC-SLP

Ms. Halpern is an ASHA certified speech-language clinician, Chief Clinical Officer LSVT LOUD and CE Administrator for LSVT Global. She is also a research associate and member of Dr. Ramig's research team at the National Center for Voice and Speech in Denver, CO. She received her master's degree in the Department of Communication Science and Disorders at the University of Pittsburgh. Ms. Halpern has worked extensively in the area of neurogenic disorders with a specialty in Parkinson disease. She has presented at national and international conferences and authored and coauthored publications related to voice and speech in Parkinson disease.

Bernadette Kosir OTR/L, CAPS

Ms. Kosir is a graduate of University of Michigan in Ann Arbor and Wayne State University in Detroit, and has been a practicing Occupational Therapist for 30 years. She joined Residential Home Health in 2001, and is currently Director of Therapy Services for the Michigan and Illinois multidisciplinary team, directing over 250 field clinicians, providing clinical program development and management, and participating as a corporate leader in marketing and community outreach efforts. She is a certified trainer in Integrated Care Management for coordinated care of patients with chronic diseases including Parkinson disease, and is an NAHBS Certified Aging in Place Specialist. She remains active in corporate and community grass roots efforts for addressing continuum of care needs for persons with Parkinson disease, and is an Ad Hoc member of the Professional Advisory Board for the Michigan Parkinson's Foundation.

Plan for Webinar

Logistics

General Overview of LSVT LOUD and LSVT BIG Programs

Discussion of Changes in Voice/Speech Associated with PD

Discussion of Difficulties with ADLs Associated with PD

Address your Questions

Disclosures

Ms. Halpern and Ms. Kosir receive lecture honorarium and travel reimbursement from LSVT Global, Inc., as faculty for LSVT LOUD and LSVT BIG Training and Certification Workshops. Ms. Halpern is an employee of LSVT Global Inc.



Greetings from Colorado and Michigan!

Angela Halpern, MS, CCC-SLP

LSVT LOUD Expert Clinician
LSVT LOUD Training and Certification Faculty, LSVT Global, Inc.
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Objectives of Presentation

- Briefly explain the motivation behind LSVT LOUD and LSVT BIG Programs
- Discuss difficulties with voice and speech associated PD and common treatment approaches
- Describe how LSVT BIG can address difficulties with ADLs associated with PD

Activities of Daily Living (ADLs),
Speech and Voice
difficulties are significant issues in PD

Many of the difficulties in these areas may affect:

- Quality of life
- Independence
- Safety
- Ability to work/take care of younger children
- Ability to live alone
- Ability to participate in LIFE

**Suggested Compensatory
Strategies for Rehab**

1. Avoid multitasking during daily activities.
2. Use external cues to initiate and maintain movements during activities.
3. Divide complex movements into a series of simpler components of the overall task, learn to execute sequentially.
4. Manipulate the environment or situation

van der Marck, Kalfa, Sturkenboom, Nijkrakea, Munneke, Bloem (2009). Multidisciplinary care for patients with Parkinson's disease. Parkinsonism & Related Disorders;15:S219-23.

People with Parkinson disease
often require therapy to address
these issues, so what treatment
options do they have?

**But why don't these compensatory
strategies always work??**

- Life requires multi-tasking and is full of distractions!
- You can't take external cues wherever you go
- It is not always easy to take adaptive devices/equipment into public places, on trips, etc.
- You can't always control the environment
- It's hard to remember one procedure let alone dozens!

Traditional Therapy Approach

- "Piecemeal approach" targeting multiple impairments unsystematically
- Low to medium intensity
- No treatment of sensory impairments
- Little expectation for lasting improvement
- Compensatory focused (use of ADL adaptive equipment, environmental adaptations)

**LSVT BIG and LSVT LOUD –
Evidence Based Treatment
Protocols**

- Attack underlying mechanism – Early PD
- Also compensatory – Moderate to Late PD
 - Alternative circuits
 - Adaptive aids when needed
- Focus on one treatment target: increasing amplitude across motor systems
 - Dual task train
 - Relearn a new internal cue for amplitude scaling
 - Not break systems down, practice with one target
 - Collaborate easily across allied professions

What is unique about the LSVT Programs?

What are the fundamentals of LSVT BIG and LSVT LOUD?

Standardized, research-based, specific protocol

TARGET: Amplitude

MODE: Intensive and High Effort

CALIBRATION: Generalization

Sensory
Internal cueing
Neuropsychological changes

LSVT Programs

Administered in an intensive manner to to **challenge the impaired** system.

Techniques specific to PD-specific deficits!
bradykinesia/hypokinesia
and
kinesthetic awareness
(sensory deficit)

Supported by 20+ years of NIH funded research establishing treatment efficacy

CALIBRATION

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

“I feel like I am shouting.”

“I can’t move like this, people will think I am crazy!!”

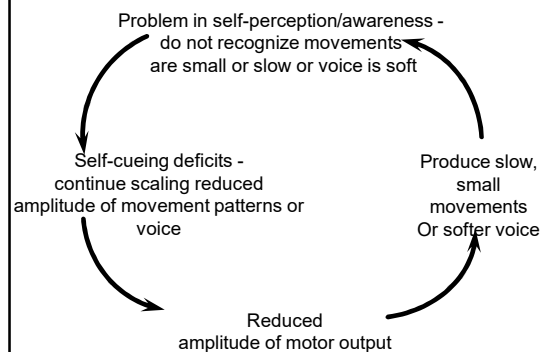
Delivery

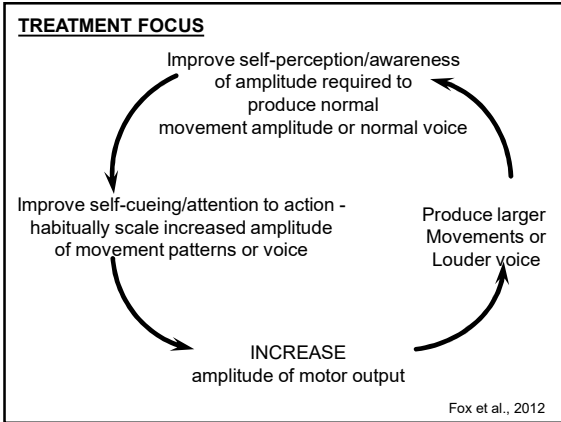
- Certified LSVT BIG Physical/Occupational Therapist or LSVT LOUD Speech Therapist
 - 1:1 intervention

Time of Practice

- 4 consecutive days per week for 4 weeks
- 16 sessions in one month
- 60 minute sessions
- Daily carryover assignments (30 days/entire month)
- Daily homework (30 days/entire month)

PRE-TREATMENT





**Consensus 1990:
Speech treatment
(articulation and rate at low dosage)
does not work**

(Sarno, 1968; Allan, 1970; Green, 1980; Aronson, 1990;
Weiner & Singer, 1989)

**Changes in
Voice and Speech
Associated with PD**

Speech Characteristics in PD

Reduced loudness
Hoarse voice quality
Monotone
Imprecise articulation
Vocal tremor

(Darley et al, 1969a; 1969b; 1975; Logemann et al, 1978)

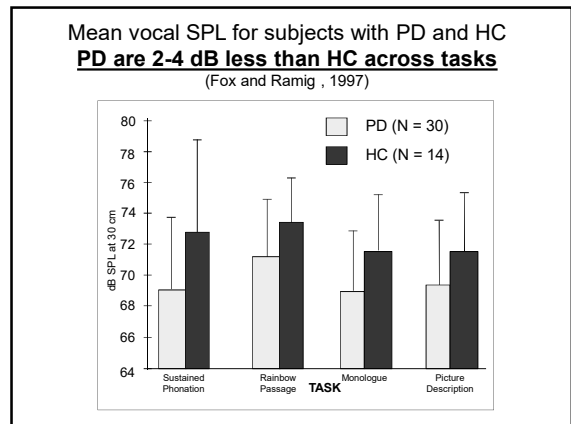
Some patients report volume, hoarse voice or monotone as the first PD symptom
(Aronson, 1990)

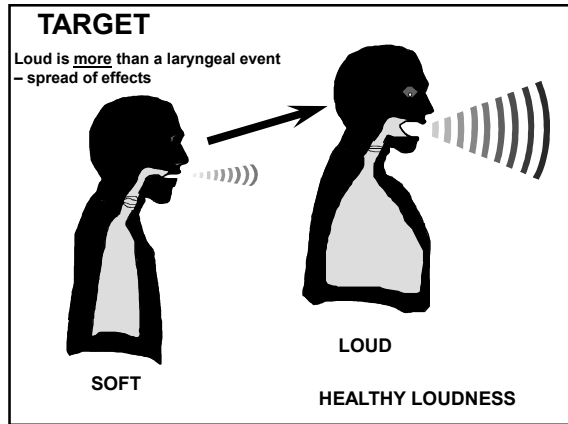
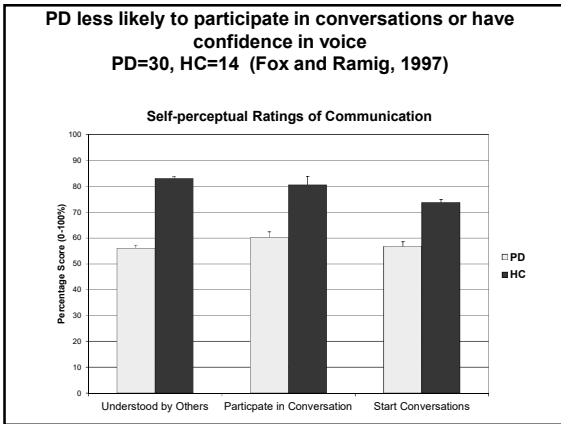
(perceived as bored, disinterested, apathetic)

**6 Million people
with PD worldwide**

**89% have a speech or voice
problem**
(Logemann et al., 1978)

**4% receive traditional speech
therapy** (Hartelius & Swenson, 1994; Oxtoby, 1982)





Does this speech problem matter?

“if I have no voice, I have no life”
 -Natalie

“No one listens to me anymore”
 -Shirley

“... people with PD live for years frustrated by communication impairment, withdrawal, social isolation and embarrassment “
 (Miller et al., 2006)

General Breakdown of Treatment Session

Daily Exercises	Hierarchy Exercises
30 minutes	30 minutes
Long Ahs: 12-15 min. High/Low Ahs: 10-12 min. Functional Speech: 5 -10 min.	Structured reading: 20+ min. Off the cuff: 5-10 minutes Homework and carryover assignments: 5 minutes
Calibration: Embedded throughout entire session	

Video Example:

59 year old female
 2.5 years post-diagnosis
 On-meds pre and post video

Pre/post LSVT LOUD
 (Lee Silverman Voice Treatment)
 Intensive physical exercise of speech mechanism

Video Example:

Homework Helper
“Ah” Clip

Speech Hierarchy

- Week 1 – words/phrases
 short/simple conversation –
 bridge gap to conversation
- Week 2 – sentences/reading
 short/simple conversation
- Week 3 – reading/conversation
- Week 4 – conversation

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
- Pulling pants up
- Stepping into shower

Hierarchy Tasks

Patient identified complex tasks:

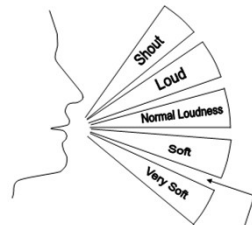
- Dressing
- Meal Preparation
- Toileting

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

Walking BIG

Distance/time may vary

RELATIVE VOCAL LOUDNESS LEVEL OF AN INDIVIDUAL WITH PARKINSON DISEASE



Adapted from Carolyn Mead Bonzani, 1987

Vocal loudness level of an individual with Parkinson disease

As a result of Parkinson disease you will need to use more vocal effort to have a voice within normal loudness limits.

Maximal Daily Exercises



Floor to Ceiling



Side to Side



Forward Step



Backward Step



Sideways Step



Forward/Backward Rock and Reach



Sideways Rock and Reach

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

PURPOSES OF MAXIMAL DAILY EXERCISES

- Learn the RIGHT amount of effort to produce normal movement and to override bradykinesia and hypokinesia.
- Forced Use: Improve or restore function!
- Drive activity dependent neuroplasticity
- Improve coordination, balance, strength, flexibility, functional endurance

BUT THEN:

- Transfer use of BIGGER amplitude movements learned through Maximal Daily Exercises into **FUNCTION**.
- Make it meaningful!

LSVT BIG TREATMENT GOAL

People with Parkinson disease will use their bigger movements “automatically” in everyday living – and there will be long-term carryover of increased amplitude use!

-Tools to facilitate improved movements, not the end goal of therapy-



How does LSVT BIG address use of bigger movements during ADLs (activities of daily living)?

IT'S ALL ABOUT...

FUNCTION!!

LSVT BIG Treatment Session

Maximal Daily Exercises

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Hierarchy Tasks

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

Walking BIG

Distance/time may vary

Functional Component Tasks

PICK 5 EVERYDAY TASKS– 5 reps each

- SIMPLE (one step) movement
- Patient-driven
- Personalized to each patient
- Never change
- Practiced repetitively (300 reps/4 weeks!)

ADL/IADL Specific Hierarchy Examples

- Dressing (even just upper or lower body)
- Toileting
- Showering/Bathing
- Preparing a meal
- Doing laundry (whole or part of task)
- Shopping
- Eating a meal
- Writing
- Cleaning-up after meal
- Applying make-up
- Shaving or brushing teeth (whole process)
- Fixing one's hair
- Vacuuming
- Sweeping
- Making the bed

ADL/IADL Specific Functional Component Task Examples

- Button
- Pull zipper up/down
- Pull pants up/down
- Put leg into pants or arm into sleeve
- Brush teeth back and forth
- Open fridge or cupboard or drawer
- Open bottle
- Cover/uncover sheets
- Step into shower
- Sit to stand
- Buckle seat belt
- Wipe countertop
- Turn on/off light
- Dry back or legs off
- Load/unload washer
- Pick up things from floor

What about Fine Motor Tasks?

Even small movements are TOO SMALL in people with PD!

– Examples: writing, buttoning, teeth brushing, stirring

Hierarchy Tasks

ONE TO THREE COMPLEX TASKS

- Complex multi-step functional activities
- Emotionally salient/patient-driven.
- Identified through discussion with patient about specific goals

1) Walking Duration	1) Walking Duration
2) Balance	2) Balance
3) Fear of falling Initial 3/15/2010	3) Fear of Falling
4) Getting out of soft chairs	4) Getting Out of Soft Chair
5) Putting pants on	5) Putting Pants On
6) Shoes on and off	6) Shoes on and off
7) Standing for long periods	7) Standing For Long Periods
8) standing in shower	8) Standing In Shower
9) handwriting clarity	9) Hand writing Clarity
10) preparing meals on my own.	10) Preparing Meals on my own

Generalized Amplitude: Uncued writing post-treatment and untrained during therapy

Summary Slide

- LSVT BIG is applicable to all stages of PD and can be customized to each patient's needs and treatment settings
- LSVT BIG increases independence, speed, quality and/or safety with ADLs and IADLs
- Restore Function! Improve Function! Maintain Function!

Parkinson Events 2016

- **Parkinson's Unity Walk** www.unitywalk.org
Saturday, April 23, 2016
- **World Parkinson Congress**
<http://www.wpc2016.org/>
Portland, OR from September 20 – 23, 2016

Further Information and Resources

- Webinars - Clinician and PD Community
- LSVT Clinician Directory
- FAQs
- LSVT BIG and LSVT LOUD Homework Helper DVDs and Videos on Vimeo
- LSVT LOUD Companion Home Edition
- Future Development: LOUD for LIFE® and BIG for LIFE®

Thank you!
Questions???



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Parkinson Events 2016

- **Partners in Parkinson's:** Michael J Fox Foundation
www.partnersinparkinsons.org
May 14: Oakland, California
June 4: Cincinnati, Ohio
October 1: New York, New York
- **Victory Summit Symposia Series:** Davis Phinney Foundation
- www.davisphinneyfoundation.org/victory-summit/
April 30: Vancouver, BC, Canada
October 8: Sacramento, CA