



## Public Webinar Series

Title: **Myths and Truths about LSVT LOUD® and LSVT BIG®**

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## Myths and Truths about LSVT LOUD® and LSVT BIG®

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## Disclosures

All of the LSVT Global faculty have both financial and non-financial relationships with LSVT Global. Non-financial relationships include a preference for the LSVT LOUD and LSVT BIG as treatment techniques.

Ms. Peterson and Ms. Gusé are employees of and receive lecture honorarium and travel reimbursement from LSVT Global, Inc. as faculty for LSVT BIG and LSVT LOUD Training and Certification Workshops.



## Plan for Webinar

Logistics

Brief Introduction

Discuss scientific rationale, evidence and treatment protocols for LSVT LOUD and LSVT BIG

Clarify common misconceptions about LSVT LOUD and LSVT BIG

Question and Answer

## Objectives of Presentation

- Explain advances in neuroscience and impact on the field of rehabilitation
- Discuss development and data on efficacious behavioral treatments LSVT LOUD and LSVT BIG
- Explain common misconceptions about LSVT LOUD and LSVT BIG

## Instructor Biographies

**Elizabeth Peterson, M.A., CCC-SLP**

Ms. Peterson received her master's degree in Speech, Language and Hearing Sciences from the University of Colorado-Boulder. She began working with Dr. Lorraine Ramig's research team at the National Center for Voice and Speech in Denver, studying voice and speech disorders in Parkinson disease, while completing her master's thesis. Ms. Peterson is LSVT LOUD® certified. In addition to providing LSVT LOUD to individuals with Parkinson disease and other neurological disorders she is the Chief Speech Technology Officer for LSVT Global Inc., working to enhance treatment accessibility through technology. Ms. Peterson is also an LSVT LOUD faculty member for LSVT Global, Inc., training and certifying speech-language clinicians in the delivery of LSVT LOUD.

**Laura Gusé, MPT, MSCS**

Ms. Gusé received her Master's Degree in Physical Therapy from the University of North Dakota. Ms. Gusé has worked extensively in the area of neurogenic disorders since then, both in outpatient and inpatient settings. She has specialized in treatment of Parkinson disease and Multiple Sclerosis. She has been certified in LSVT BIG® since 2009, and is a Multiple Sclerosis Certified Specialist. She is an LSVT BIG faculty member and Expert Clinician, and has helped to develop many of the current LSVT BIG treatment tools, webinars and curriculum. She now serves as the Chief Clinical Officer of LSVT BIG for LSVT Global.

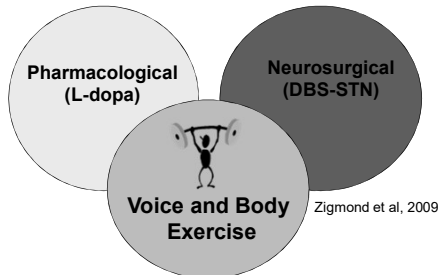
## It is a "Stunning Time" to be in rehabilitation today

- 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



**Over 89% of the nearly 6 million individuals with Parkinson disease worldwide suffer from voice and speech disorders.**

Reduced vocal loudness, hoarse, monotone voice and imprecise articulation (e.g., Logemann et al., 1978; Sapir et al., 2001) are among the classic characteristics.

These voice and speech disorders contribute to *lifelong frustration, embarrassment and social isolation* (e.g., Miller et al., 2006).

## *Where did we begin...*

**Classic Medical Treatments Alone do not Consistently or Significantly Improve Speech in PD**

### Pharmacological Tx:

"...no evidence of systematic improvement in dysarthria owing to dopamine replacement therapy." (e.g., Pinto et al., 2004)

### Surgical Tx:

Neurosurgical interventions do not consistently or effectively improve speech in PD (e.g., Freed et al., 1992; Goberman, 2005; Pinto et al., 2004; Rousseaux et al., 2000; Tripoliti et al., 2008; Astromet et al., 2010)

***"If only we can hear and understand her"***

*Family of Mrs. Lee Silverman 1987*



**Voice and Speech Disorders in PD have been Historically Unresponsive to Speech Treatment**

**Despite efforts to improve voice and speech in PD** (e.g., Sarno, 1968; Allan, 1970; Greene, 1980; Weiner and Lang, 1980; Robertson and Thompson, 1984; Johnson and Pring, 1990).

**1987 no effective voice and speech treatments for PD**

**'If I have no voice, I have no life.'**

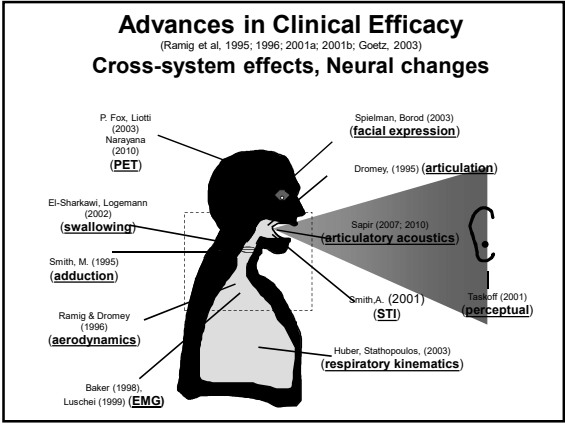
**-Natalie, individual with PD**

**20+ year journey from invention to scale-up**  
**Over 8 million dollars in NIH funding**

Phase I, II	1987-89: Initial invention; Pilot data (Scottsdale)
	1989-91: Office of Education OE-NIDRR
Phase III	1991-94: OE-NIDRR
	1990-95: NIH funded RCT Efficacy
	1995-00: NIH funded EMG, Kinematics
	2002-07: NIH funded RCT Spread of effects
Phase IV, V	2007-12: NIH funded RCT, imaging
	2001-02: Coleman Institute (PDA; LSVTC)
	2002-04: NIH and M J FOX Foundation PDA (R21)
	2002-04: Coleman Institute (VT; LSVTVT)
	2004-06: NIH LSVTVT (R21)
	2004 : Coleman Institute (LSVT Down Syndrome)
	2004-07: LSVT –Dissemination
2006: Technology-enhanced Clinician Training (SBIR)	
2010: Technology-enhanced LSVT LOUD delivery (SBIR)	

# LSVT LOUD DATA

# LSVT LOUD



**What are the fundamentals of LSVT LOUD?**

Standardized, research-based, specific protocol

**TARGET:** Loudness (amplitude)

**MODE:** Intensive and High Effort

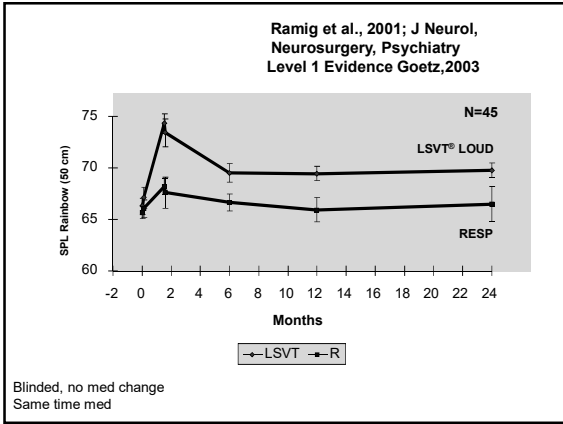
**CALIBRATION:** Generalization

- Sensory
- Internal cueing
- Neuropsychological changes

**Long-term follow-up? CONVENTIONAL WISDOM**

“Changes in treatment room disappear on the way to the parking lot”

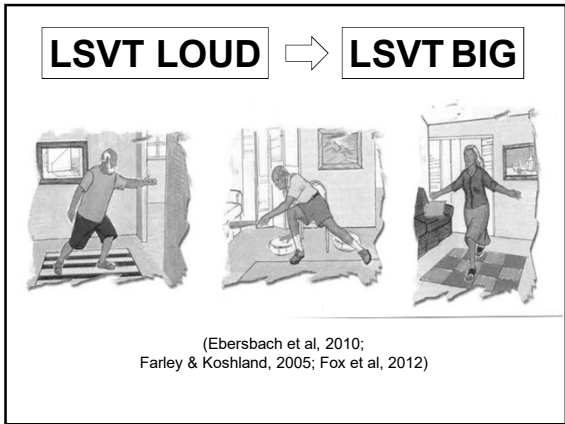
(Allan, 1970; Sarno, 1968)



# LSVT BIG

**To a patient.....major life impact**

“My voice is alive again”  
 “I can talk to my grandchildren!”  
 “I feel like my old self”  
 “I am confident I can communicate!”



**What are the LSVT LOUD exercises?**

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

- Sustained “ah” (minimum 15 reps)
- High/Low “ah” (minimum 15 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

↑ Shorter, simple  
↓ Longer, more complex

**What are the fundamentals of LSVT BIG?**

Standardized, research-based, specific protocol

**TARGET:** Bigness (amplitude)

**MODE:** Intensive and High Effort

**CALIBRATION:** Generalization

- Sensory
- Internal cueing
- Neuropsychological changes

# LSVT BIG DATA

## Treatment Session

**Daily Exercises**

1. Floor to Ceiling
2. Side to Side
3. Forward step
4. Sideways step
5. Backward step
6. Forward Rock and Reach
7. Sideways Rock and Reach

**Functional Component Tasks**

5 EVERYDAY TASKS– 5 reps each For Example:

- Sit-to-Stand
- Pulling keys out of pocket
- Opening refrigerator door

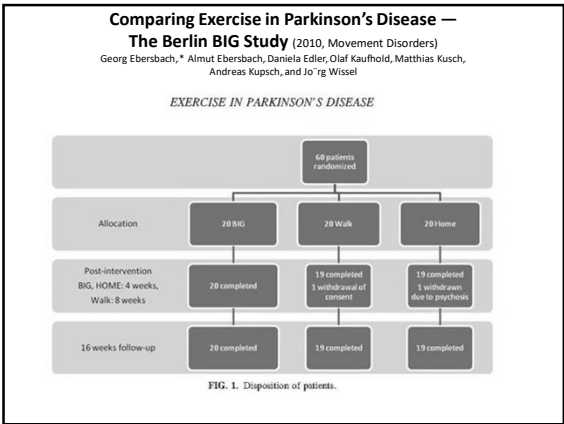
**Walking BIG** distance/time may vary

**Hierarchy Tasks**

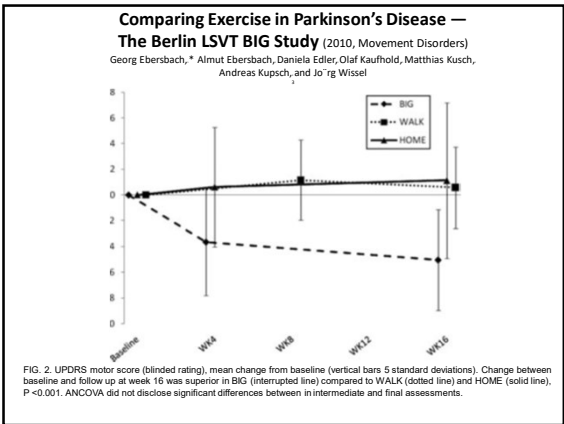
Patient identified tasks:

- Getting out of bed
- Playing golf
- In and out of a car

Build complexity across 4 weeks of treatment towards long term goals



- ## Myths about Goals of LSVT
- LSVT LOUD trains people to shout.
  - LSVT LOUD does not help articulation, only amplitude
  - LSVT BIG will make me look ridiculous when I move.
  - LSVT BIG does not help with fine motor skills.



## Reimbursement Myths

Insurance will not reimburse for something as intensive as LSVT LOUD or LSVT BIG.

### **Accessibility Myths**

- In rural populations it is not feasible for people to make the lengthy commute to a clinic 4 days a week.
- LSVT LOUD and LSVT BIG can be delivered 2 days a week.
- I only work part-time so I cannot deliver all 16 sessions of treatment in 1 month.
- It is too intensive and patients will not be agreeable to come 4x/week for 4 weeks.

### **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](http://www.lsvtglobal.com) to find an LSVT LOUD or LSVT BIG Certified Clinician in your area
  - Click on "Find a Clinician"
  - Select the desired type of clinician and enter location information
- DVDs available to introduce you to voice and movement exercises used in LSVT LOUD and LSVT BIG programs:  
[www.lsvtglobal.com/products](http://www.lsvtglobal.com/products) OR visit our store on Amazon for additional shipping options:  
[www.amazon.com/s/ref=nb\\_sb\\_noss\\_1?url=search-alias%3Daps&field-keywords=lsvt+dvd&rh=i%3Aaps%2Ck%3Alsvt+dvd](http://www.amazon.com/s/ref=nb_sb_noss_1?url=search-alias%3Daps&field-keywords=lsvt+dvd&rh=i%3Aaps%2Ck%3Alsvt+dvd)

### **Application Myths**

- LSVT LOUD and LSVT BIG only work with adult populations.
- LSVT LOUD and LSVT BIG are not appropriate for all stages of PD.
- Treatment can be delivered in groups.

## **Questions?**

For more information:  
[info@lsvtglobal.com](mailto:info@lsvtglobal.com) (email)  
[www.lsvtglobal.com](http://www.lsvtglobal.com)

### **Other Myths**

- I was just diagnosed and don't have any problems with my voice, mobility or balance.
- I am very physically fit and exercise often so I don't need LSVT BIG.
- I've had "BIG" and/or "LOUD" for a few visits and it did not work.
- LSVT LOUD and LSVT BIG are just a simple set of exercises that you can learn from the HH DVDs.