

# **Online LSVT LOUD® Training and Certification Course Syllabus**

## **Course Description:**

The Online LSVT LOUD Training and Certification Course teaches speech-language pathology professionals, students, and assistants in an evidence-based, intensive speech treatment protocol for people with Parkinson disease (PD). The fundamental treatment principles and rationale, key treatment elements, efficacy data supporting treatment outcomes, details of treatment exercises, and practical delivery and documentation considerations will be covered. Teaching techniques include pre-recorded lecture, video demonstrations, and case-study presentations. Discussion will be included on application to other neurological conditions and customization of treatment delivery to meet the unique functional goals of each patient across disease severity and practice setting. Knowledge review questions after each course module and scheduled practice times ensure the highest levels of learning.

## **Learning Objectives:**

Upon conclusion of this workshop, participants (Speech-Language Pathology Professionals, Students, and Assistants) will be able to:

- Outline the rationale for the treatment of voice in motor speech disorders
- Identify aspects of Parkinson disease and other neurological conditions and the impact these have on voice and speech
- Explain the rationale for using LSVT LOUD for Parkinson disease and other pediatric or adult neurological conditions
- Describe the key paradigm shifts in LSVT LOUD rationale and methods
- Discuss key elements of LSVT LOUD that are consistent with theories of motor learning and principles that drive neuroplasticity
- Identify characteristics of adults and children who would most likely benefit from LSVT LOUD
- Explain and demonstrate all aspects of LSVT LOUD treatment including daily exercises, speech hierarchy exercises, sensory calibration, homework exercises, and carryover assignments
- Define recommendations for long-term maintenance of LSVT LOUD outcomes
- Explain the benefits of LSVT LOUD to physicians, other health-care professionals, patients and families
- Discuss strategies for documentation of LSVT LOUD outcomes
- Outline the process for facilitating LSVT LOUD referrals

## **Course Index:**

### **Pre-Knowledge Assessment (30:00)**

- Resources: Slides (5)
- A 40-question pre-assessment to determine baseline knowledge about LSVT LOUD

## **Module 01: Introduction and Logistics (14:44)**

- Resources: Slides (28), Course Syllabus, LSVT LOUD Policies and Procedures, Clinician Practice Agreement, Faculty Disclosure Statement, LSVT LOUD On Demand Webinars Listing
- Knowledge Review Questions: 3
- Learning Objectives:
  - Identify key elements of the Learning Management System (LMS) that will allow you to effectively progress through the course
  - Describe the important points in the LSVT LOUD Clinician Practice Agreement and what you can and cannot do as an LSVT LOUD Certified Clinician

## **Module 02: Background on LSVT LOUD (17:55)**

- Resources: Slides (19), Neurology Questions
- Video (1)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Explain how advances in neuroscience have impacted the field of rehabilitation
  - Discuss the perspective of treating neurological voice along the continuum of voice treatment

## **Module 03: LSVT LOUD Paradigm Shifts – Target (22:23)**

- Resources: Slides (28), Soft-Loud Man Diagram
- Videos (2)
- Audio Clips (4)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Identify the three paradigm shifts associated with LSVT LOUD
  - Explain the rationale for treating vocal loudness in neurological disorders (motor speech disorders)
  - Describe the value of a single treatment target in maximizing outcomes and efficiency of treatment

## **Module 04: LSVT LOUD Paradigm Shifts-Mode and Calibration (13:30)**

- Resources: Slides (25)
- Knowledge Review Questions: 5
- Learning Objectives:
  - Understand the rationale for intensive and high effort delivery of LSVT LOUD
  - Define calibration in LSVT LOUD
  - Demonstrate an understanding of the three underlying deficits in Parkinson disease that calibration addresses

## **Module 05: Overview of Parkinson disease (10:29)**

- Resources: Slides (17)
- Knowledge Review Questions: 3

- Learning Objectives:
  - Identify major medical treatments for PD
  - Recognize diagnostic criteria for PD

### **Module 06: Origin of PD: Motor and Non-motor symptoms (10:47)**

- Resources: Slides (20), Circle Diagrams
- Knowledge Review Questions: 4
- Learning Objectives:
  - Identify both motor and non-motor symptoms of PD
  - Identify which motor deficits LSVT LOUD targets
  - Demonstrate an understanding of the three underlying non-motor deficits in PD that calibration addresses
  - Describe the motor, sensory, and neuropsychological deficits in PD and how LSVT LOUD addresses them

### **Module 07: LSVT LOUD Patient Demonstration Video (44:40)**

- Resources: Slides (22)
- Videos (9)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Video clips from a treatment session with LSVT LOUD Expert Clinician Angela Halpern and her client Bob.
  - This is not an entire treatment session, but is simply an abbreviated demonstration of each of the Daily Exercises and Speech Hierarchy Exercises, thus the total number of repetitions of each task are not shown.

### **Module 08: Voice and Speech in PD, LSVT LOUD Efficacy Data (12:41)**

- Resources: Slides (33)
- Videos (2)
- Knowledge Review Questions: 4
- Learning Objectives:
  - Identify the key perceptual and acoustic characteristics of voice and speech in PD
  - Explain the efficacy data supporting LSVT LOUD

### **Module 09: Cross-System Effects and Neural Correlates of LSVT LOUD (14:32)**

- Resources: Slides (27)
- Videos (2)
- Knowledge Review Questions: 4
- Learning Objectives:
  - Describe the cross-system effects of vocal loudness training
  - Explain the neural imaging data pre/post LSVT LOUD

### **Module 10: LSVT LOUD in Other Disorders, Alternative Delivery Mechanisms, and Data from External Labs (17:21)**

- Resources: Slides (16), LSVT LOUD Diagram
- Video (1)
- Knowledge Review Questions: 4
- Learning Objectives:
  - Identify the neural disorders where LSVT LOUD has published data
  - Describe alternative delivery mechanisms for LSVT LOUD
  - Summarize published outcome data from external laboratories

### **Module 11: LSVT LOUD Methods Introduction (15:35)**

- Resources: Slides (20), LSVT LOUD vs. Traditional Therapy Chart, Table of Principles of Neuroplasticity
- Knowledge Review Questions: 4
- Learning Objectives:
  - Describe LSVT LOUD methods in relation to principles of motor learning and neuroplasticity
  - Explain the general breakdown of an LSVT LOUD treatment session

### **Module 12: Daily Exercise 1 Long “ahs”- Method (20:01)**

- Resources: Slides (27)
- Videos (2)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Identify the key purpose of the “ah” exercise
  - Explain implementation of stimulating, shaping, and stabilizing the “ah” voice

### **Module 13: Daily Exercise 1 Long “ahs” – Clinician Practice and Treatment Video Examples (32:06) (plus 10 minute self-practice)**

- Resources: Slides (26), LSVT LOUD Practice Guidelines
- Videos (4),
- Audio Clips (9)
- Knowledge Review Questions: 3
- Learning Objectives:
  - **Practice the long “ah” exercise**
  - Identify acceptable and unacceptable voice qualities during this exercise

### **Module 14: Daily Exercise 2 High/Low “ahs”- Method and Clinician Practice (15:44) (plus 10 minutes self-practice)**

- Resources: Slides (24), LSVT LOUD Practice Guidelines
- Audio Clips (18)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Discuss the rationale for the second daily exercise: maximum fundamental frequency range
  - Explain implementation of stimulating, shaping, and stabilizing the High/Low voice

- Identify acceptable and unacceptable voice quality during High/Low “ah” exercise
- **Practice the High/Low “ah” exercises**

### **Module 15: Daily Exercise 2 High/Low “ahs”-Treatment Video Examples (25:31)**

- Resources: Slides (20)
- Videos (8)
- Knowledge Review Questions: 4
- Learning Objectives:
  - Gain knowledge of how to teach the High/Low exercises

### **Module 16: Daily Exercise 3 Functional Phrases (19:27)**

- Resources: Slides (33), Communication Situations, LSVT LOUD Practice Guidelines
- Videos (4)
- Knowledge Review Questions: 4
- Learning Objectives:
  - Discuss the rationale for the third daily exercise: functional phrases
  - Explain implementation of stimulating, shaping, and stabilizing the “ah” voice during the functional phrases
  - Identify the key purpose of the functional phrases exercise

### **Module 17: Hierarchical Speech Loudness Exercises - Method (19:59)**

- Resources: Slides (22)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Define the rationale for the speech hierarchy
  - Explain progression through the speech hierarchy
  - Discuss the importance of salience in relation to materials used in the speech hierarchy exercises

### **Module 18: Hierarchical Speech Loudness Exercises - Clinician Practice and Treatment Video Examples (26:57) (plus 5 minutes self-practice)**

- Resources: Slides (24), LSVT LOUD Practice Guidelines
- Videos (4)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Practice the speech hierarchy
  - Identify considerations to keep in mind during these exercises

### **Module 19: Teaching Techniques – Model and Shape (09:10)**

- Resources: Slides (16)
- Knowledge Review Questions: 4
- Learning Objectives:
  - List 5 key teaching techniques used in LSVT LOUD

- Understand rationale for modeling as a teaching technique
- Define “shaping” as it pertains to LSVT LOUD treatment
- Describe how to perform shaping

### **Module 20: Teaching Techniques – Drive, Stabilize, Calibrate (17:09)**

- Resources: Slides (28), Effort Scale
- Knowledge Review Questions: 3
- Learning Objectives:
  - Understand purpose of driving muscle activation
  - Correctly identify a statement that could be used to stabilize a movement
  - Define “stabilize” as it pertains to LSVT LOUD treatment
  - Correctly identify a calibration statement that could be used during the LSVT LOUD exercises

### **Module 21: Quantification in Treatment Sessions (25:25)**

- Resources: Slides (24), Treatment Forms, Equipment handout
- Videos (4)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Explain the primary outcome variables for quantifying treatment changes during the daily exercises and speech hierarchy exercises
  - Describe equipment options you can use to quantify treatment changes during the daily exercises and speech hierarchy exercises

### **Module 22: Summary of Daily Exercises and Speech Hierarchy, Introduction to Calibration (08:08)**

- Resources: Slides (16), Calibration Chart
- Knowledge Review Questions: 3
- Learning Objectives:
  - Summarize the daily exercises and speech hierarchy
  - Define when calibration activities begin in treatment

### **Module 23: Calibration - Education and Daily Exercises and Speech Hierarchy (13:01)**

- Resources: Slides (21), Loudness Diagram
- Video (1)
- Knowledge Review Questions: 4
- Learning Objectives:
  - Explain the rationale for education as an area of calibration
  - Explain implementation of education during treatment sessions
  - Explain how calibration is embedded into the daily exercises and speech hierarchy
  - Describe how using an audio/tape recorder can help convince patients that the new louder voice is within normal limits

### **Module 24: Calibration - Carryover Exercises (16:27)**

- Resources: Slides (22), Example Calibration Dialogue
- Video (1)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Define carryover exercises in LSVT LOUD
  - Explain how carryover exercises are implemented in LSVT LOUD

### **Module 25: Calibration - Homework Exercises (18:24)**

- Resources: Slides (18), Homework worksheet
- Videos (4)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Describe how homework is assigned (what exercises and how often) in LSVT LOUD
  - Explain the goal of homework exercises during the one month of treatment and after treatment has ended

### **Module 26: Calibration Summary, Follow-up Recommendations, and Prognostic Variables (23:27)**

- Resources: Slides (33), Skills Checklist
- Video (1)
- Knowledge Review Questions: 6
- Learning Objectives:
  - Explain how to evaluate successful calibration during LSVT LOUD
  - Explain the expectation for how long treatment effects should last after treatment
  - Describe how clinicians follow-up with patients once treatment has ended
  - Explain key prognostic variables when selecting patients for LSVT LOUD

### **Module 27: Assessment (17:07)**

- Resources: Slides (14), Assessment Forms
- Knowledge Review Questions: 5
- Learning Objectives:
  - Describe the key elements of the initial assessment
  - Explain the primary voice and speech outcome data collected during the initial assessment
  - Explain the rationale and necessity for all patients to have a laryngeal exam by a physician (ENT) prior to starting LSVT LOUD

### **Module 28: Documentation and Reimbursement (14:52)**

- Resources: Slides (24), Documentation Resources
- Knowledge Review Questions: 3
- Learning Objectives:
  - Identify measures (e.g., acoustic, perceptual) for documenting outcomes post LSVT LOUD
  - Explain reimbursement strategies and identify the coding for insurance documentation

- Describe resources available from LSVT Global to assist with your documentation and reimbursement for LSVT LOUD

### **Module 29: Application of LSVT LOUD Beyond Parkinson Disease - Case Studies, Stimulability Testing (25:55)**

- Resources: Slides (30)
- Videos (4),
- Audio Clip (1)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Describe the framework for applying LSVT LOUD to other neurological disorders
  - Explain the outcome data of the two case studies using LSVT LOUD in multiple sclerosis
  - Explain the protocol for deciding if LSVT LOUD is appropriate for use with either adults or children with other neurological disorders

### **Module 30: Application of LSVT LOUD Beyond Parkinson Disease - Case Studies and Considerations (22:05)**

- Resources: Slides (26)
- Videos (3)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Explain considerations for applying LSVT LOUD to other neurological disorders for each of the daily exercises and speech hierarchy
  - Discuss strategies for treating patients who have palilalia
  - Describe data and recommendations for using LSVT LOUD in patients post DBS-STN

### **Module 31: Revisit of Paradigm Shift - Target (13:31)**

- Resources: Slides (19)
- Video (1)
- Knowledge Review Questions: 2
- Learning Objectives:
  - Identify the changes accompanying loudness training
  - Explain why training loudness maximizes therapeutic outcomes

### **Module 32: Revisit Paradigm Shifts - Mode and Calibration, Technology and Facilitating Referrals (20:22)**

- Resources: Slides (25)
- Videos (3)
- Knowledge Review Questions: 5
- Learning Objectives:
  - Identify the classic dosage associated with intensive, high effort treatment in LSVT LOUD
  - Explain the rationale for using technology in the delivery of LSVT LOUD

### **Module 33: LSVT BIG, Interdisciplinary Care, and Summary (13:25)**

- Resources: Slides (21)
- Videos (2)
- Knowledge Review Questions: 3
- Learning Objectives:
  - Explain application of principles of LSVT LOUD to LSVT BIG (physical/occupational therapy)
  - Describe how LSVT BIG might impact your interdisciplinary practice

### **Module 34: Next Steps (04:52)**

- Resources: Slides, LSVT LOUD On Demand Webinars Listing
- Knowledge Review Questions: 3
  - Review of next steps and final reminders before taking the Final Exam

### **LSVT LOUD Certification Exam (30:00)**

- 40-question certification exam for the LSVT LOUD Training and Certification Course

**Total Run Time for Pre-Assessment, Modules 01-34, and Final Exam: Approximately 12.5**

### **LSVT LOUD Course Evaluation (10 minutes)**

## **Instructor Biographies:**

### **Lorraine Olson Ramig, Ph.D., CCC-SLP**

Dr. Ramig received her doctorate from Purdue University and her Master's degree from the University of Wisconsin-Madison in communication disorders. She is Research Professor in the Department of Speech, Language and Hearing Sciences at the University of Colorado-Boulder, an Adjunct Professor at Columbia University in New York City, and has been a Senior Scientist at the National Center for Voice and Speech, Denver (NCVS) and is Co-Founder of LSVT Global, Inc. Dr. Ramig is an internationally recognized expert with an established research record in the areas of aged and neurological voice disorders. She has been investigating neurological voice disorders for over 25 years and has authored numerous refereed journal articles, book chapters and co-authored three books. She is an ASHA Fellow and has been awarded Honors of the Association of the American Speech-Language and Hearing Association.

### **Cynthia Fox, Ph.D., CCC-SLP**

Dr. Fox received her doctorate degree in Speech and Hearing Sciences from the University of Arizona, Tucson. Dr. Fox is a Research Associate at the National Center for Voice and Speech, an affiliate of the University of Colorado-Boulder and Co-Founder of LSVT Global, Inc. Dr. Fox is among the world's experts in speech treatment for people with Parkinson disease. She has multiple publications in this area of focus, as well as numerous national and international research and clinical

presentations. Dr. Fox has worked closely with Dr. Ramig on studies examining the efficacy of LSVT LOUD, the underlying mechanisms of speech disorders in Parkinson disease, and the application of LSVT LOUD to other disorders (children and adults) and other motor systems (e.g., limb). She is an expert on rehabilitation and neuroplasticity and the role of exercise in the improvement of function consequent to neural injury and disease.