

Practice-based Evidence

- **Practice-based evidence (PBE)** examines the effectiveness of clinical practice within the actual clinical context PBE capitalizes on using customary procedures and measures to establish clinical outcomes. (Horn & Gassaway, 2010; Swisher, (2010).
- **Therapeutic Listening® (TL)** is frequently used as a complement to sensory integration intervention in children with sensory processing disorders. Over 15,000 clinicians have been trained in the use of Therapeutic Listening® worldwide.
- Research supporting the effectiveness of this widely used therapy is sparse (Bazyk, Cimino, Hayes, Goodman & Farrell, 2010, Hall & Case-Smith, 2006).
- Following a practice-based evidence approach under the guidance of expert OT clinicians, the effects of TL on children with sensory processing difficulties were measured commonly used assessments



References

Bazyk, S., Cimino, J., Hayes, K., Goodman, G. & Farrell, P. (2010). The use of therapeutic listening with preschoolers with developmental disabilities: A Look at the Outcomes. *Journal of Occupational Therapy, Schools, & Early Intervention*, 3(2), 124-138
Hall, L., & Case-Smith, J. (2007). The effect of sound-based intervention on children with sensory processing disorders and visual-motor delays. *AJOT*, 61(2), 209-215. doi:10.5014/ajot.61.2.209
Horn, S. D., & Gassaway, J. (2010). Practice based evidence: incorporating clinical heterogeneity and patient-reported outcomes for comparative effectiveness research. *Medical care*, 48(6), S17-S22.
Swisher, A. K. (2010). Practice-Based evidence. *Cardiopulmonary Physical Therapy Journal* 21.2.4.

Phase 1 Retrospective Data Analysis¹

- **Seven children** 4 female, ages 4 years-4 months to 13 years-7 months.
- **Two clinics** with expert OT clinicians. Intervention 6 to 20 months receiving TL as part of OT services.
- **Qualitative and quantitative record review:** test results from initial, progress and discharge evaluations, daily notes and record of TL intervention. Data triangulated by 3 researchers.
- Progress across domains (see table 1)
- Common assessment used sensitive to change (VMI, Sensory Processing Measure & Clinical Observations of Motor and Postural Skills)
- Need for consistent format goal setting and documentation of change

Table 1	Case #						
Skill	1	2	3	4	5	6	7
Fine Motor Skills			o	+	+	+	o
Gross Motor Skills			o	+	o	+	o
Posture/Balance	+	+	+	+	+	+	o
Bilateral Coord	+		o	+	o	+	o
Oral Motor Skills	+						+
Vis- Motor Integ.	+	o	+	+	+	+	o
Sensory Mod.		+	+	+	+	+	+
Sensory Discrim.	+/-	+	+	+	o		o
Emotional Reg.	o	+	+			o	+
Social Commun.	o	+		+	+	o	+
Attn/Organize	+/-		+	+		+	+/-

Phase 2 Prospective Case Study Pilot

- **Five children**, 3 female, ages 5, years-0 months to 10 years-3 months
- **Same two clinics as phase 1: 8 weeks TL** Quickshifts twice daily for 15-20 minutes plus OT intervention as usual.
- **Standardized Pre and Post test measures:** Canadian Occupational Performance Measure (COPM), Sensory Processing Measure (SPM), Clinical Observations of Motor and Postural Skills (COMPS), Beery-Buktenica Developmental Test of Visual Motor Integration (VMI), and therapist treatment notes & parent journals
- Overall progress made in each domain (see table 2)
- **COPM and parent journals best** documented change (positive and negative). Other assessments had mixed results.

Table 2	Case				
Skill	1	2	3	4	5
Self-Regulation and Arousal	+	N/A	+	+	+
ADLs	+	+	+	N/A	+
Social Interaction	+	+	+	+	+
Sensorimotor Skills	+	+	+/-	+/-	+

Note: + = skills improved; o = no change; - = skills declined; +/- = skills fluctuated; blank N/A= not applicable

Phase 3 Multi-center, Multiple Case Study

- **Children with learning and/or developmental issues**, 3 to 12 years of age
- **Seven clinics:** Expert OT clinicians
- **12 weeks intervention** with TL Quickshift with OT
- **Standardized Pre and Post test assessments**
- COPM (adapted to measure Social emotional, self-regulation, communication, Activities of Daily Living, Play, Productivity & family life (chores, contributing to family, etc), and sensory and motor skills based on family priorities, Sensory Processing Measure, Clinical Observations of Quality of Movement, Beery-Buktenica Test of Visual Motor Integration (Beery-VMI), Motor Assessment: Peabody -2 or BOT-2
- **Therapist and Parent Qualitative Data:** TL Parent Log & TL-Q Progress Sheet

Implications for OT Practice

- Practice-based evidence (PBE) extracts evidence from practice itself and how it is customarily provided. (Horn, DeJong, & Deutscher, 2012)
- Clinicians can reliably measure outcomes of interventions in a clinical context using a PBE approach. The methodology used can provide an important means of gathering clinical evidence.