

Thank you for the invitation  
to address

The First **EURO HSP** Meeting  
in Burgos, Spain  
28-29<sup>th</sup> May 2011

diana holm speech therapist



# Diana Holm

Speech Therapist

Working with people with motor disorders for years, specializing in Parkinsons Disease.

About 3 years ago I met with my first patient with HSP.

LSVT-workshop in Linköbing, Sweden 2009

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# CSV

*Center for Specialundervisning for Voksne  
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*English :*

*Department of Special Education  
for Adults in Copenhagen Denmark*



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# HSP - a movement disorder



Foreningen for ATAKSI / HSP Denmark

**HSP** affects the corticospinal tracts within the spinal cord. The disease results in progressive **spasticity** of leg muscles with varying degrees of stiffness and weakness of other muscle groups in the thighs, lumbar spinal area, and muscles responsible for up and down feet movements.

# Pure / Complex HSP



The **pure** form aprox. 90%

What happens ?

The motor nerves that innervate the lower limbs start to deteriorate.

This results in difficulty with balance, weakness and stiffness of the legs, muscle spasms, and dragging of toes while walking.

The **complex** form aprox 10%

What happens ?

In addition to the lower limb spasticity there are other symptoms, and among others you can find communicative disorders such as : dysarthria, dysfagia.

[\(McMonagle et al 2006\).](#)

## Treatment therefore aims to alleviate symptoms



### Treatment forms :

- Medication
  - to treat the underlying medical disorders / problems
- Fysiotherapy
  - To better or maintain physical capacity
- Occupational therapy
  - To maintain 'every day life'-skills
- Speech / communication therapy
  - To better or maintain communication capacity
  - To supply with augmentative or alternative to communication materials

There is no cure at the moment !

# Center for Specialundervisning for Voksne



## **CPLOL**

**The Standing Liaison Committee  
of Speech and Language  
Therapists / Logopedists in the  
European Union.**

Members of CPLOL are the national professional organizations of SLTs / logopedists.

As of 2007 CPLOL is composed of 31 professional organizations of speech and language therapists / logopedists in 28 European countries.

The member organizations  
represent more than  
**60,000 professionals**



***Asociación de Diplomados Universitarios en Logopedia***

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Spanish Member Organisation

# Scandinavia

In Denmark speech and language therapy is a public service, provided by local authorities for

1. children up to 18 and
2. adults with acquired disorders from 18 and up

The obligation to provide the service is regulated by :

- the Act on Public Schools (*Folkeskolen*), including regulations concerning children with special educational needs encompassing also speech and language therapy

- The Act on Special Education for Adults, encompassing all sorts of speech and language therapy/pathology for adults.

There is a Public system of communication centers in Dk where you receive your training (26)

## Notice :

*In Denmark speech and language therapy is considered a pedagogic profession, rather than a paramedical one. Although the latter is the more general opinion in Europe, Danish logopaedics is in full accordance with the professional profile of CPLOL, saying that "The speech and language therapist is the professional responsible for the prevention, assessment, treatment and scientific study of human communication and related disorders".*



Denmark with population of 5 mill people

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## *The speech and language therapist*



*According to the CPLOL rules the SLT is professionally responsible for :*

- *prevention,*
- *assessment,*
- *treatment and*
- *scientific study*

*.....of human communication and related disorders".*

# *The logopedic task :*



## **Assesment :**

- Respiration
- Phonation
- Resonance
- Articulation
- Prosody

## **Treatment :**

Find adequate  
excercises  
& advice

# Speech Disorder



Speech disorder, ***dysarthria*** can vary from mild to so severe and makes it difficult to speak and to be understood.

Problems can be :

- long pauses between words
- individual syllables of words
- slurring
- nasal speech

# How do you maintain a good voice ?

There are many and different ideas, but the main idea is Use it – or loose it !

*For more specific advice go to the US-sp-foundation at :*

<http://sp-foundation.org>

# Lee Silvermann Voice treatment



- Was originally developed for communication disorders in Parkinsonism (*hypokinetic dysarthria*)
- But further studies have been shown to have effect on other kinds of dysarthria ... such as :  
*spastic dysarthria*

Paper :“*Intensive Voice Treatment and Respiration Treatment for Hypokinetic-Spastic Dysarthria After Traumatic Brain Injury*“

by Nancy Pearl Solomon,  
Amy S. McKee Sandra Garcia-Barry

...”The efficacy of the LSVT, is well documented for idiopathic Parkinson's disease. This is the first known published account of the use of LSVT with *traumatic brain injury, TBI*. Breathing and speech function were assessed by spirometry, respiratory kinematics, intelligibility, and other selected acoustic and auditory-perceptual measures. Improvements generally were minor and inconsistent after LSVT, although sound pressure level (SPL) and loudness increased notably. After an *additional 6 weeks of intensive Combination Treatment*, gains were documented for resting and speech breathing. Moreover, SPL increased further and sentence intelligibility improved substantially. The gains were maintained to varying degrees after 10 weekly sessions of Combination Treatment.

Although several measures returned to baseline 3 months after treatment ceased, some improvements in resting and speech breathing remained. Most important clinically, improvements in vocal SPL and sentence intelligibility persisted.

# Effect of LSVT on other patient groups than Parkinson's

*“Effects of intensive phonatory-respiratory treatment (LSVT) on voice in two individuals with **multiple sclerosis**”* by S Sapir, A A Pawlas, L O Ramig, E Seeley, C Fox, J Corboy

- ... “Statistically significant improvement from pre- to post treatment and from pre- to 6 months post treatment were observed in sound pressure level (SPL) for different speech tasks and in duration of sustained vowel phonation. Significant improvement was also observed in the perceptual rating of voice loudness after treatment. The present findings provide further support for the efficacy of LSVT in the treatment of various neurologically based speech disorders”.



# Voice Therapy for Parkinson Disease?



- Significant respiratory difficulties and bowed vocal folds have been reported as causes of voice symptoms in those with Parkinson disease
- The most effective approach has been to exaggerate one component of speech to improve all other components (e.g. loudness, voice, quality, pitch, rate)
  - These observations has been formalized into the LSVT®
- Kleinow, J., Smith, A., Ramig, L.O. (2001). *Speech motor stability in IPD: effects of rate and loudness manipulations. Journal of Speech, Language, and Hearing Research, 44*, 1041–51.

# Intencity

1 hour day,  
4 times a week,  
for 4 weeks

That is 16 hours of intence  
Voice Coaching

# The 5 essential concepts of LSVT



- **Concept 1 : voice,**
  - improving vocal fold adduction - “Think loud”- exercise
- **Concept 2 : high effort**
  - excercises with much force
- **Concept 3 : intensive treatment**
  - daily practice
- **Concept 4 : calibration**
  - patient knows and accepts the amount of effort needed to consistently increase loudness
- **Concept 5: Quantification**
  - the key to motivate patient and provide feedback ( phonation time and SPL)

# LSVT<sup>®</sup> method



- The program incorporates:
  - Enhancing the vocal source (adduction)
  - Using phonation (sustained vowel–fonation) as a trigger to increase effort and coordination through stimulating the “loud” global variable (respiratory support)
  - Retraining sensory processing during the speech production (increasing fundamental frequency range)

# Outcome of LSVT treatment

- on Parkinsons

- Increased respiratory support
- Increased duration of sustained vowel phonation
- Increased SPL, voice with greater force
- Impact also on swallowing and facial expression



# LSVT- certified clinicians in Spain



I have found 3 !

You can find them here :

[www.lsvtglobal.com](http://www.lsvtglobal.com)

# Why is the LSVT Program Successful?

- “Loudness” functions as a single motor organizing theme and enhances overall speech
- Intensive mode of administration is essential to get the best treatment result
- By incorporating sensory awareness training, the patient feels more comfortable using the new louder voice

Want to see for yourself ?

Go to [www.youtube.com](http://www.youtube.com) and write : LSVT loud !

# Swallowing



## **Symptoms of swallowing disorder (dysfagia) :**

- Slower eating
- Getting tired from eating
- Food sticks in the mouth and throat
- Frequent coughing when eating / drinking
- Difficulty swallowing pills
- Difficulty initiating the swallowing process
- Weightloss with no other explanations
- Changes in eating habits
- Pneumonia (-s)
- Changes in voice quality / nasal resonance
- Feeling of food getting stuck in the chest
- Liquid or food up the nose

# Treatment Principles



*The goals of dysphagia therapy are to :*

- reduce aspiration
- improve the ability to eat and swallow
- and optimize nutritional status.

# Swallowing behavior therapy suggestions:



- Take sips, or only as much liquid as can be managed in one swallow
- Pause before swallowing. Hold liquid in mouth, wait, then swallow
- When taking pills, moisten mouth and throat first by drinking a little water. You need a good, strong swallow for pills. If taking three/four pills becomes too much, cut down on the number, or crush them, coat them with oil.
- Before eating solid foods, wet the mouth and throat with water. Start each meal with a drink. Chew thoroughly, do not rush, and drink water periodically to wash down the solid food.
- Manage your solid food by making sure it is moist: dip bread in liquid.
- Cut down on dry items, as too much bread.
- Add mayonnaise, dressing, ketchup, mustard to sandwiches and hamburgers
- Eat open-faced sandwiches, /smorrebrod/
- Have a slice of lemon with water
- When dining out, eat slowly, relax, chew everything thoroughly

# Augmentative and alternative communication (AAC)

- Augmentative and alternative communication (AAC) includes all forms of communication (other than oral speech) that are used to express thoughts, needs, wants, and ideas.
- We all use AAC when we make facial expressions or gestures, use symbols or pictures, or write.
- For more information on the subject go to : The American Speech-Language-Hearing Association homepage:

[www.asha.com](http://www.asha.com)



# Communication ways and means:

- Fundamental communication
- Aided speech
- Computers and software

## Voca Flex



# Center for Specialundervisning for Voksne



Assistive mouse adapter



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And new  
communication  
aids  
appear  
all the time .... !





Thank you for listening  
and greetings from Denmark



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