

SIVA ENT HOSPITAL

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Directors

சிவா காது, மூக்கு, தொண்டை மருத்துவமனை
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SIVA ENT HOSPITAL
M.B.B.S.
ஆரம்ப நேரம் : காலை 10.00 மணி முதல் மாலை 5.00 மணி

SCOPE REHAB CENTRE

மூலக்கூறு மருத்துவ கழகம்
PHYSIOTHERAPY
Audiology & Psychotherapy & Vocational Rehabilitation
Speech Therapy & Occupational Rehabilitation
Psychiatry & Psychological Therapy & Sensory Integration Therapy
Cognitive Behavioral Therapy & Biofeedback

SCOPE REHAB OFFERS:

• Speech Therapy
• Occupational Therapy
• Psychological Therapy
• Sensory Integration Therapy
• Cognitive Behavioral Therapy
• Biofeedback

CHENNAI NET
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XEROX
P.C.O

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Siva ENT Hospital Presents

Voice Care

"Gaining Kinetic Energy by Bernoullie's Principle for Professional Voice Users"

(MEDICAL MANAGEMENT OF VOICE DISORDERS)

Your vocal cords are a precious gift, which you want to ensure, is well taken care of, especially if you use your vocal cords to earn your living. Often, an individual is unable to talk more than a few words at a time. There are a variety of exercises you can try that will be effective in strengthening your vocal cords. This section will go over a variety of lesions that leads to a voice with poor volume and variation in voice type.

BERNOULLI'S PHENOMENON

Fundamental concept: the conservation of energy

This is a law of physics that holds that a system isolated from all outside factors maintains the same total amount of energy, though energy transformations from one form to another take place

For instance, if you were standing at the top of a building holding a baseball over the side, the ball would have a certain quantity of:

POTENTIAL ENERGY - the energy that an object possesses by virtue of its position, once the ball is dropped, it immediately begins losing potential energy and gaining **KINETIC ENERGY** - the energy that an object possesses by virtue of its motion



Explanation of Bernoullie's Phenomenon by Dr. Kumaresan to the Teachers.



Endoscopic Vocal Cords View...

Bernoulli's principle and its application in life:

- ↪ What are the forces that operate in a glottal cycle that determine when
- ↪ And where the vocal folds will separate?
- ↪ How quickly they will open?
- ↪ How quickly they will close?
- ↪ How long they will remain closed?

The best unified answer to this question is the aerodynamic-myoelectric theory of phonation. The essence of this theory is that GLOTTAL VIBRATION is a result of the interaction between aerodynamic forces and vocal fold muscular forces. The aerodynamic forces at work in phonation make sense only if you understand the so-called Bernoulli effect. It is the effect that gives "lift" to an airplane wing, and that pulls air out of a car window when a window is open. Stated briefly, the Bernoulli principle is that, as velocity of a gas or liquid increases, pressure decreases.

DISORDERS OF VOCAL CORDS

Many things we do can injure our vocal cords. Talking too much, screaming, constantly clearing your throat or smoking can make your voice hoarse. These can also lead to problems such as

- ◉ Nodules ◉ Polyps ◉ Sores on the vocal cords ◉ Muscle tension dysphonia
- ◉ Vocal fold paralysis (weakness) ◉ Non - specific oedema (swelling)
- ◉ Chronic laryngitis ◉ Vocal fold sulcus ◉ Vocal fold cysts both pre and post operatively

Treatment for voice disorders varies depending on the cause.

WHO WILL BE BENEFITTED?

- ◉ Singers ◉ Teachers ◉ TV / Radio host ◉ Call center agents ◉ Drill officers etc.,

ADVANTAGES OF VOICE THERAPY:

- ◉ Increase in Stamina ◉ Increase in Vocal Range ◉ Mental and Physical conditioning
- ◉ Better voice control ◉ Promotes correct breathing
- ◉ Avoid damage to the articulators ◉ Increases vocal strength

YOGA FOR VOICE CARE

Surya namaskar

Padmasana

Simhasana

Bhujangasana

Chakrasana



BRHAMARI



SITALI

PRANAYAMAM

Kapalbhati

Anulom-vilom

Bhramri

Sitali

Sitkari



SIMHASANA



SITKARI

MEDITATION

“Om” Manthra

“Shankh” Mudra

Deeply relaxed and refreshed

A greater sense of celebration to well-being

More empowered and invigorated

More replenished from your sleep

More balanced

EXERCISES FOR VOICE CARE

1. Tongue trill

To exercise the tongue muscle, you need to first relax it flat in the mouth, start to roll both sides towards the center of the tongue so that it creates a passage or groove in the middle.



TONGUE TRILL

2. Tongue Press

First, stick your tongue straight out in front of you. Have the object pressed against your tongue tip. Push against the object as hard as you can for a count of 5, then relax. Next, again stick out your tongue in front of you. This time have the object placed on the right side of your tongue. Press against the object as hard as you can.

3. Sustained Vowels

- ↻ Sit on a firm chair for these exercises
- ↻ Hold the vowels 'e' & 'a' for long and loud for 10 sec 5 times
- ↻ Repeat the same with pushing down your arms on the seat of the Chair 10 sec 5 times
- ↻ Repeat the same pulling up hard on the seat of your chair with your arms 10 sec 5 times



SUSTAINED VOWELS 'AAAAA...'



SUSTAINED VOWEL 'EEEEEE...'

4. Syllable repetition

- ↻ Say 'ah ah ah' as loudly and clearly 10 times
- ↻ Tighten the neck muscles and repeat the same

5. Diaphragmatic breathing

- ↻ Lie on your back on a flat surface or in bed, with your knees bent and your head supported.
- ↻ You can use a pillow under your knees to support your legs. Place one hand on your upper chest
- ↻ Breathe in slowly through your nose so that your stomach moves out against your hand.
- ↻ The hand on your chest should remain as still as possible
- ↻ Tighten your stomach muscles, letting them fall inward as you exhale through pursed lips

6. Posture

- ↻ Correct posture is essential to a performance and key to getting the breathe support needed because proper positioning makes sounds easier to control and produce.

7. A U M

- ↻ Sound **A** produced from the head
- ↻ Sound **U** produced from the neck region
- ↻ Sound **M** produced from the upper chest region



PRANAVA AUM
'AAAAAAAAA...'



PRANAVA AUM
'UUUUUU...'



PRANAVA AUM
'MMMMM...'

8. HYDROTHERAPY

- ↻ Person lying in horizontal float position with floaters support
- ↻ Use the abdominal muscles to produce and control the length of inspiration and expiration
- ↻ Encourages movement and play
- ↻ Blowing activities like blowing bubbles, blowing plastic objects across the surface of the water, etc.,

DO'S AND DONT'S FOR A HYGIENIC VOCAL

- ↻ Limit your intake of drinks that include alcohol or caffeine
- ↻ Drink plenty of water
- ↻ Don't smoke and avoid second-hand smoke
- ↻ Practice good breathing techniques when singing or talking. It is important to support your voice with deep breaths from the diaphragm
- ↻ Talking from the throat, without supporting breath, puts a great strain on the voice.
- ↻ Avoid eating spicy foods. Spicy foods can cause stomach acid to move into the throat or esophagus (reflux).
- ↻ Try not to overuse your voice. Avoid speaking or singing when your voice is hoarse.
- ↻ Wash your hands often to prevent colds and flu.
- ↻ Include plenty of whole grains, fruits, and vegetables in your diet. These foods contain vitamins A, E, and C
- ↻ Do not cradle the phone when talking
- ↻ Exercise regularly. Exercise increases stamina and muscle tone. This helps provide good posture and breathing, which are necessary for proper speaking.
- ↻ Get enough rest. Physical fatigue has a negative effect on voice.
- ↻ Avoid talking in noisy places
- ↻ Avoid mouthwash or gargles that contain alcohol or irritating chemicals. If you still wish to gargle, use a salt water solution.
- ↻ Avoid using mouthwash to treat persistent bad breath. Halitosis (bad breath) may be the result of a problem that mouthwash can't cure, such as low grade infections in the nose, sinuses, tonsils, gums, or lungs, as well as from gastric reflux from the stomach.
- ↻ In static environments such as exhibit areas, classrooms, or exercise rooms, a lightweight microphone and an amplifier-speaker system can be of great help.

Training Programme for Voice Care Professionals

Theory 30%, Practical 70%,

Field work, Assignment and Record Book Preparation, Written and Practical examination

Component of the course

1. Lectures
2. Class Test
3. Assignment -Meeting Professional Voice Users ie Eg. Teachers ,Singers, Carnatic Music Teachers, and Collecting the data etc
4. Field Work – collecting overall data of Occurrence of Voice Problem in Society – Music group etc.,
5. Exposure to Care Management of affected persons– Causes and Prevention Programs at local area
6. Hygiene to Respiratory System by yoga and meditation classes
7. Employment skills and interpersonal Skills – Cure rate in Voice Problems after regular follow up.
8. Employment as Voice Care Instructor (Part time or Full Time)

Goal

The candidate are taught and trained to get practical knowledge on the basics of Voice Production, organ mechanism, Management and cure. They will become good ambassador to give every one a clear voice.

Duration

One year Course (12 months) Part time, in different centers.

Course Units and Outline

UNIT I: Organs for Speech

UNIT II:

Fundamentals of Speech therapy

Nursing Technic and Procedures

First Aid and Emergency Care

Basic Voice Care, 1.Rhytham

2. Intonation 3. Accent 4. Pitch 5. Intensity 6. Quality

UNIT III:

Voice Misuse – Target group of individual their Management and their Wellness

UNIT IV:

Overuse – Target group –Vendors and individuals regular abuse of voice.

UNIT V:

Abuse - Target group-Singers, Imitation of other voices and making unusual sounds

UNIT VI:

Practical Training

Frequent visit to Voice users

<i>Normative</i>	<i>Emotive</i>
More likely to have problems related to abuse from overuse	Often use their voices to motivate or encourage others to engage in some kind of activity
Includes: Telephone operators, telemarketers, TV and radio broadcasters, executives, and teachers	Includes: Conductors, actors, ministers, politicians, aerobic instructors, drill instructors, and athletic coaches

UNIT VII:

Practical – Preparation of Case History of minimum 10 professional voice users in the local area-(not patients)

Brief History: The client complains of not speaking fluently since childhood later age.

Onset of Problem

The client has had this problem since the age of 5 yrs. (Since childhood)

Nature of the Problem: Gradual, Progressive.

Change in handedness: The client is right-handed, no change in handedness

Contact with stutters:

Familial history:

Awareness of the problem:

Anticipatory Behaviour:

Avoidance Behaviour:

The client avoids a topic / situation when he anticipates dysfluencies.

Compensatory Behaviour:

substitute's words, when he anticipates to stutter in a specific word / phoneme.

Circumlocutory behavior:

Sound fear, Word fear: The client stutters on words with phonemes

Language Variations:

The client shutters both while using Tamil & English irrespective of language

Situational Variations & Individual Variations: The client reports of more dysfluencies while speaking to strangers & unknown, when compared to family and friends.

Parental reaction towards the problem: The parents encourage him to speak.

Evaluation of Dysfluencies:

Type of Dysfluencies and Duration of Dysfluencies

- ⇒ Aphasia
- ⇒ Dysarthria
- ⇒ Dysphonic
- ⇒ Dyspraxia
- ⇒ Anomie
- ⇒ Agnosia, Auditory, Vision, Olfaction, Gustatory and Tactile.
- ⇒ Dyslexia, Learning Disability, Reading Disability, Mind
- ⇒ Disability (Ward Blindness)
- ⇒ Idioglossia (Creating his own new Glossary)

Many dysfluencies in conversation & spontaneous speech compared to reading, singing and acting.

Secondaries:

Head and body language ; Genetic inheritance.

Facial and Body abnormality

Flaring of nose: jaw tension and non alignment

Provisional Diagnosis: Defective voice

Categories. A
B
C
D

Recommendations:

Reduce dysfluencies, Counseling
Follow – up, Modeling
Imitation, correction of errors, Training
Self correction, Expansions, Extension

UNIT VIII: Regular follow up of available speech defect customers.
Regular training and council ling.

Condition	Method of Treatment	Days of treatment	Result
Puberphonia	Scopy, Elongation of Vocal Card , Speech Therapy	One Day & Follow Up	100% in 30 sittings
Stammering	Palatogram & Speech Therapy	One Week & Follow Up	90% in 30 sittings
Snoring	Nasal Tubing & Surgery	One Day & Follow Up with or with out surgery	95% in 90 sittings
Soft Vocal Nodule	Nasyam & Speech Therapy	One Week & Follow Up	100% in 30 sittings
Other Lesions Like Chronic Laryngitis	Scopy & Surgery	Regular Follow Up with clearing infection in upper and lower respiratory tract	90% in 30 sittings

UNIT IX: Mode of Treatments:

- ⇒ Deep Breathing Exercise ⇒ Positive Thinking ⇒ Self Mind Control
- ⇒ Self – Hearing ⇒ Recollection of good Speech ⇒ Mind Reading
- ⇒ Auto suggestion
- ⇒ 8 Interaction and Practice with Outsiders Self Relaxation
- ⇒ 10 Vision Speaking ⇒ 11 Mirror Practice ⇒ 13 Teleprompter ⇒ 14 Sharasana

UNIT X, XI, XII: Voice Therapy Regiments:

1. Resonant Voice Therapy 2. Confidential Voice 3. Circumalaryngeal massage
4. Lee silverman Voice Treatment 5. The Accent Method 6. Vocal Function
7. Singing Therapy 8. Phonation on inhalation
9. Reflexive and vegetative behaviors 10. Voice Therapy for Puberphonia
11. Auditory Integration Training Speech Therapy with Palatogram

Practical Reference Visit:

Siva E.N.T Hospital to know about Structure and Function of Vocal Cords
Music House, Mimicry Institute
Speech handicapped Schools and Colleges
Birla Planetarium, Tamil Nadu Science and Technology