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TECHNIQUES FOR ENHANCING THE QUALITY OF SOUND ATTACK AND HARSHNESS IN A PROFESSIONAL SINGER'S VOICE

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ABSTRACT

Singing is a type of sportive activity and, like sports medicine, professional voice medicine is interested in the habilitation and rehabilitation of the vocal performer. The vocal needs of the professional vocal performer may not be similar to other professional or non-professional voice users. Like a professional athlete, a vocal performer's ability to perform for many decades at a high level will be enhanced by basing artistic and lifestyle decisions on a scientifically sound foundation.

KEYWORDS

Voice; voice treatment; voice training; voice quality; vocal quality; speech therapy; voice disorders; singing.

Introduction

Vocology has been first defined as "science and practice of voice habilitation" [1 p5]. Over time, this term has evolved into an umbrella term that combines different disciplines and perspectives related to the human voice. In this context, vocology can be divided [2] into three main branches: basic vocology (laboratory studies such as acoustics, aerodynamics, biomechanics, neurophysiology, imaging, etc.), pedagogical vocology (habilitative and rehabilitative studies for professional voice), and clinical vocology (diagnosis and treatment of voice problems).

Singing pedagogy has proposed many techniques and teachings for the development of the human voice through the use of artistic intuition throughout human history. Singing voice therapy (SVT) [2,3], which has an important role in the vocal habilitation and rehabilitation of singers, is one of the basic tools of pedagogical vocology and the main field of application for safe and sustainable vocal performance throughout professional life.

MATERIALS AND METHODS

Habilitation and rehabilitation are similar processes, which are founded upon behavioral treatment and motor learning principles. In habilitation, acquiring and retaining a skilled movement/motor behaviour or task through practice takes place. However, in rehabilitation, since there is a disability, the performer needs to relearn a new set of sensory, motor, or cognitive tasks. In the process of habilitation and rehabilitation of the voices of vocal performers, each of whom is a vocal athlete, the SVT should

provide a medical treatment program structured in line with exercise physiology and motor learning principles, taking into account the needs of the individual. SVT needs to be handled from a multidimensional perspective. SVT, though not a singing pedagogy in itself, can include a number of training methods in the protocols.

RESULTS AND DISCUSSION

After Kaufman and Isaacson [5], a modification for professional voice classification has been proposed by Denizoglu [6], considering the use of performing voice for artistic concerns:

- LEVEL 1 (Vocal performers):
  - Level 1a (Elite vocal performers):
    - Based on high-level artistic performance by voice.
    - Lose their job or career with a slight voice disorder.
    - Soloist opera singers, most well-known singers, some theatre artists.
  - Level 1b (Professional vocal performers):
    - Artistic vocal performance on stage (voice quality important).
    - Mild to moderate voice disorder affects career and job negatively.
    - Most professional choirs, singers, theatre artists.
  - Level 1c (Semi Professional vocal performers):
    - Mild-moderate vocal disorder does not affect income, but activity limitations occur that affect quality of life.
    - Some singers, students of singing and theatre, amateur choir singers.
- LEVEL 2 (Occupational voice users):
  - Level 2a (Professional Occupational Voice Users):
    - Depends on voice use without artistic concerns.

Daily job performance is sufficiently impaired because of voice disorder.

- Persuasive voice use (teachers, secretaries, call center workers, receptionists, lawyers, politicians).
  - Level 2b (Semi Professional Occupational Voice Users):
    - Voice use is required for daily practice, but voice quality is not important
    - Physicians, police, most officers, some businessmen.
  - Level 2c (Nonprofessional Occupational Voice Users):
    - Voice does not have a major influence for career.
    - Workers, writers, painters, etc.

Understanding human voice begins with understanding movement; the fourth dimension of the anatomy. A vocal exercise is a pre-structured neuromuscular task based on functional anatomy, exercise physiology, principles of physical therapy and sports medicine, principles of motor learning, and behavior change. Sports and Exercise Medicine can be regarded as the “work-based healthcare” [7 p5] for the performance health of individuals who are seriously interested in physical exercise and sports in a multidisciplinary approach. In this sense, two key components of practice take place: habilitation and rehabilitation. Habilitation can be defined as acquiring, preserving, and developing certain (sportive) skills and behavioral adaptation. Rehabilitation is the re-gaining and behavioral transfer of a certain motor skill that has been lost for some reason. This reason may be organic or functional, but the main goal is performance efficiency and sufficiency. These principles can be applied to SVT, which is a

major branch of performing arts medicine. Habilitation, in this sense, is the process of enabling, equipping for, and capacitating the vocal performance level by providing solutions for the specific needs of a vocal performer. Rehabilitation, as in sports medicine, aims to return the impaired vocal performance level to a former state or condition through treatment principles.

Exercise processes are determined by four main variables: muscle fiber type, training adaptation, bioenergetics (conversion of energy into action), and age/sex. In the habilitation and rehabilitation processes, it is important for the singer/patient to design education/treatment programs consciously with the perspective of exercise physiology. From the point of view of exercise physiology, the factors that can be effective in the habilitation and rehabilitation processes can be listed as follows [8,9]:

1. Duration of the effort.
2. Amount of effort (average and limits of loudness used during exercise).
3. The rate of daily use of the application requiring maximum skill (singing or stage performance time).
4. Work-rest ratio (normal life other than professional voice use or professional voice use in second job: day teacher plus night stage performance).
5. Pre-training (acquiring technical skills, conscious awareness, coping with fatigue).
6. Genetic factors (anatomical structure, muscle fiber type, motor ability, level of acoustic processing, etc.).

The idiom “voice is muscle” fits with the essential rule of exercise physiology. The vocal exercises are supposed to be structured according to the vector forces and fiber types of the related muscles in a specific motor task. In this sense, the clinician should be aware of the target muscle to be trained by manipulating the speed and type of the vocal exercise. So, regardless of age, training, experience, professional status, and singing style, SVT is for all singers.

CONCLUSION

The clinical approach to professional voice is a team effort that includes various factors and many disciplines. Diagnosis is the first step of treatment and cannot be separated from treatment. The clinician should internalize the basic mechanisms of the exercises he/she chooses and should be able to accurately demonstrate them. The source of practical information is primarily vocal pedagogy; in addition, the principles of sport-exercise medicine, physical therapy and rehabilitation, behavioral therapy, and motor learning should be included in the process of structuring and applying the exercises. Practices should be reproducible and based on cause-effect relationships, in line with the principles of physics, physioanatomy, and physiopathology. They should be free from random and rote-based expectations.

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