

Master's Degree

Speech Neurorehabilitation
and Vital Function Analysis.
Orofacial and Myofunctional
Therapy for Physicians



Master's Degree

Speech Neurorehabilitation
and Vital Function Analysis.
Orofacial and Myofunctional
Therapy for Physicians

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/medicine/master-degree/master-degree-speech-neurorehabilitation-vital-function-analysis-orofacial-myofunctional-therapy-physicians

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01

Introduction

The improvement of speech, swallowing and even the patient's own aesthetics has been achieved thanks to the latest technical advances in orofacial and myofunctional therapy (OMT). A multidisciplinary job whose effectiveness and recent progress have encouraged the interest of medical professionals, who have extensive capabilities to evaluate problems caused by malformations, congenital brain damage or developmental disorders. In this scenario of continuous progress, this academic institution has developed a program that covers the most recent information on Speech Neurorehabilitation and orofacial therapies. All this, with an exclusively online format and multimedia content at the forefront of academia.





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This university program, compatible with your professional responsibilities, will keep you up to date on the latest research in Orofacial and Myofunctional Therapy”

The specific work done on speech difficulties has always been closely linked to the work done by speech therapy professionals. However, beyond communication problems, the proper exercise of certain facial muscles and orofacial posture has a considerable influence, not only in properly communicating, but also in feeding or eating. Pediatricians, neurologists, ENT specialists, nurses and even dentists are involved in the correct development of patients suffering from brain damage, speech or developmental disorders.

In recent years, Orofacial and Myofunctional Therapy (OMT) has been consolidated, especially thanks to scientific studies that support the use of its techniques to improve patient health in, for example, swallowing problems. These advances facilitate medical professionals to prevent, evaluate, diagnose and intervene in orofacial disorders or dysfunctions. Given its relevance, TECH has designed a program with the most updated knowledge on Speech Neurorehabilitation and Vital Function Analysis, as well as Orofacial and Myofunctional Therapy.

A program that takes a theoretical-practical approach, which will guide physicians through orofacial disorders, intervention in dysphagia of neurological origin in adulthood, feeding/eating in patients with ASD or OMT. All of this is accompanied by multimedia resources based on video summaries, detailed videos or specialized readings that will allow for a much more dynamic and agile way to study the subject in more detail. What is more, the Relearning system used by this academic institution facilitates agile progression throughout the program, reducing the long study hours often required in other methodologies.

Medical professionals are before an excellent opportunity to update their knowledge through an academic option taught in an exclusively online and flexible format. Students will only need an electronic device with an Internet connection to access the syllabus whenever suits them. A Master's Degree with no required attendance, or fixed scheduled classes, ideal for professionals who wish to balance a university program with their work and personal responsibilities.

This **Master's Degree in Speech Neurorehabilitation and Vital Function Analysis. Orofacial and Myofunctional Therapy for Physicians** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ A large number of practical cases presented by experts in speech neurorehabilitation. The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ The latest developments in speech neurorehabilitation
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Algorithm-based interactive learning system for decision-making in the situations that are presented to the student
- ♦ Its special emphasis on evidence-based methodologies in speech neurorehabilitation
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an internet connection



Thanks to this Master's Degree, you will obtain the most recent scientific evidence on the use of behavior modification techniques"

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Study the advances on syndromic or neurodevelopmental alterations at any time in the day”

The teaching staff includes professionals belonging to the field of speech rehabilitation, who pour into this program the experience of their work, in addition to recognized specialists belonging to reference societies and prestigious universities.

The multimedia content developed with the latest educational technology will provide students with situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby students must try to solve the different professional practice situations that arise throughout the course. For that purpose, professionals will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of speech neurorehabilitation who have extensive teaching experience.

The case studies provided by the multidisciplinary teaching team will be very useful to diagnose patients with orofacial disorders.

A flexible academic option, with no fixed class schedules and the latest information on Speech Neurorehabilitation.



02 Objectives

Scientific studies that address language and the problems associated with orofacial disorders are constantly opening new avenues of research and application techniques for their treatment. That is why this program has the main objective of offering the latest information in the field, through a comprehensive and innovative content developed by the specialized teaching team on the program.



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The innovative methodology at TECH will guide you through a detailed study of the diagnosis and treatment of neurofunctional disorders in a much more agile way”



General Objectives

- ◆ Develop a broad body of knowledge of the anatomical and functional basis of the central and peripheral nervous system
- ◆ Study the anatomy and function of the organs involved in basic functions such as respiration, phonation and swallowing
- ◆ Acquire knowledge in both assessment and speech therapy intervention
- ◆ Delve into rehabilitation techniques supported by clinical practice
- ◆ Develop intervention skills acquired from complementary disciplines such as neuropsychology, physiotherapy and psychology
- ◆ Become proficient in the assessment, diagnosis and treatment of neurofunctional and logopedic disorders in specific groups with neurodevelopmental or syndromic disorders
- ◆ Know various approaches and intervention programs in neurological and speech therapy neurorehabilitation





Specific Objectives

Module 1. Introduction to Neurorehabilitation I: Fundamentals of Neuroanatomy

- ◆ Know how the brain has been studied throughout history since antiquity
- ◆ Study the basis of the nervous system in order to understand how the brain works
- ◆ Detail the stages of embryological development of the nervous system in general terms
- ◆ Classify the different structures that form the central nervous system
- ◆ Study the structural and functional organization of the cerebral cortex
- ◆ Identify the general characteristics that make up the ascending and descending pathways of the spinal cord
- ◆ Recognize the differences between child and adult populations in clinical practice
- ◆ Study the different functions performed by the autonomic nervous system
- ◆ Know the characteristics that constitute motor control

Module 2. Introduction to Neurorehabilitation II: Speech Therapy Treatment

- ◆ Know the different brain damage diseases as a basis for neuropsychological exploration
- ◆ Know the basic cognitive functions
- ◆ Know how to conceptualize the functions of attention, memory and perception
- ◆ Know classifications, processes and systems
- ◆ Acquire basic knowledge of the assessment tests used
- ◆ Know the main alterations of the functions studied here
- ◆ Acquire an approach to the knowledge of executive functions and language

- ◆ Know what neuropsychological rehabilitation consists of and how to approach each cognitive function
- ◆ Know different behavior modification techniques (BCT)
- ◆ Develop some basic notions of how to apply BCT
- ◆ Acquire tools to act in the face of behavioral disorders
- ◆ Know how to apply BTC to speech therapy for improved results
- ◆ Know the clinical implication of occupational therapy in speech therapy rehabilitation
- ◆ Know the role of families during the rehabilitation process

Module 3. Anatomy and Physiology of the Voice

- ◆ Learn how to implement a correct and complete assessment of vocal function in daily clinical practice
- ◆ Learn the specific anatomical and functional aspects of the phonatory system as a basis for the rehabilitation of vocal pathologies and for vocal work with voice professionals
- ◆ Know the most important features of the voice and learn to listen to different types of voices in order to know which aspects are altered to guide clinical practice

Module 4. Vocal Rehabilitation

- ◆ Gain in-depth knowledge of the most current diagnostic and treatment techniques
- ◆ Analyze the different possible voice disorders and achieve scientific rigor in treatments
- ◆ Solve real case studies with current therapeutic approaches based on scientific evidence
- ◆ Delve into the knowledge and analysis of the results obtained in objective voice assessments

- ♦ Learn about different approaches to the treatment of vocal pathologies
- ♦ Raise awareness of the need for vocal care
- ♦ View the voice as a global ability of the person and not as an exclusive act of the phonatory system

Module 5. Orofacial/Myofunctional Therapy (OMT) and Early Care

- ♦ Understand oral-facial behavior in children, both innate and acquired
- ♦ Recognize correct motor patterns in swallowing, breathing and sucking
- ♦ Detect functional alteration in diet early
- ♦ Understand the importance of orofacial growth and vegetative functions development at the pediatric level
- ♦ Detect the signs of proper posture and apply them in different positions for breastfeeding
- ♦ Learn how to use alternative techniques in infant diets
- ♦ Learn to manage the different intervention strategies at the pediatric orofacial level in children with swallowing disorders
- ♦ Know and develop action plans during diet that can be helpful in first instance with a high chance of success
- ♦ Create diet programs adapted and individualized to each case in a preventive, re-educative and rehabilitative way

Module 6. Assessment and Intervention in Dysphagia of Neurological Origin in Adults

- ♦ Learn the anatomy and physiology of swallowing
- ♦ Provide anatomical and physiological knowledge of the structures involved in normal and pathological swallowing
- ♦ Learn the functional basis of dysphagia to classify it and know the pathologies associated with this disorder
- ♦ Become familiar with assessment scales, exploration and instrumental techniques
- ♦ Develop strategies to assess dysphagia before, during and after speech therapy intervention
- ♦ Learn how to assess the nutritional status of patients with dysphagia and the consequences of poor hydration and malnutrition
- ♦ Learn compensatory techniques as opposed to rehabilitative techniques
- ♦ Train in the comprehensive approach to dysphagia of neurological origin

Module 7. Dentistry and Orofacial Disorder

- ♦ Know the function of structures involved in breathing, chewing and swallowing
- ♦ Recognize dentomaxillary abnormalities
- ♦ Relate, complement and coordinate the work between dentistry and speech therapy
- ♦ Know orthodontic appliances
- ♦ Know and assess the functions of the orofacial system and their interrelationship
- ♦ Recognize when swallowing is dysfunctional
- ♦ Elaborate orofacial-myofunctional assessment protocols

Module 8. Differential Diagnosis of Autism Spectrum Disorder (ASD)

- ♦ Develop competencies that favor the assessment of orofacial system alterations in congenital neurological disorders
- ♦ Favor the quality of life of neurological patients by improving their eating habits
- ♦ Broaden knowledge and consolidate the bases of infantile oral motor functioning
- ♦ Create programs for new habits and routines directly related to special needs student diets in order to improve their quality of life both at a personal and a social level
- ♦ Improve the intake quality in Parent-Child Interaction (PCI) during feeding to offer greater safety and efficiency in each intake

Module 9. Diet in Congenitally Acquired Disorder

- ♦ Know the concept of ASD and how sensory profiles influence diet
- ♦ Study potential strategies to deal with difficulties during feeding
- ♦ Learn how to develop work programs that enhances feeding function
- ♦ Provide support strategies in terms of understanding the context through visual, tactile and auditory support
- ♦ Generate practical tools to be implemented in natural contexts
- ♦ Promote the creation of individualized, flexible diet programs based on the interests of autistic children



This program brings you closer to the most recent scientific evidence on the treatments applied to the alterations of the orofacial system in Congenital Neurological Disorders"

03 Skills

Medical professionals who take this Master's Degree will find throughout the program the most up-to-date content in Speech Neurorehabilitation and Vital Function Analysis, as well as the latest advances in Orofacial and Myofunctional Therapy. All this will allow them to be up to date in the evaluation, diagnosis and treatment techniques used for patients with dysphagia, lingual frenulum or brain damage.



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This program will keep you abreast of new therapies and the most innovative strategies in the management of patients who present swallowing problems”



General Skills

- ◆ Possess knowledge and understanding that provides a basis or opportunity to develop and/or apply original ideas, often in a research context
- ◆ Know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the area of study
- ◆ Be able to integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- ◆ Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences in a clear and unambiguous manner
- ◆ Acquire the learning skills that will enable further studying in a largely self-directed or autonomous manner





Specific Skills

- ♦ Use logopedic terminology in Orofacial Myofunctional Therapy (OMT) and related fields through the use of semiology as a basis for the understanding of all professional activity
- ♦ Detect, evaluate and explore the different orofacial system disorders at a structural level, considering basic and vital functions (breathing, swallowing, chewing and sucking) to re-educate or rehabilitate patients toward optimal neuromuscular function and an adequate muscular balance during growth and development
- ♦ Create work teams during myofunctional intervention, making joint decisions and assessments of the evolution of the case
- ♦ Become aware of the importance of making referrals to different health professionals such as pediatricians, stomatologists, speech therapists, otolaryngologists, neurologists, dentists, physiotherapists, occupational therapists, etc.
- ♦ Create prevention programs for the different orofacial and myofunctional disorders and alterations
- ♦ Explore, assess, diagnose and make a prognosis of the evolution of orofacial alterations from a multidisciplinary approach
- ♦ Study, know and learn to use the different exploration techniques and instruments suitable for functional health, educational or clinical practice
- ♦ Put into practice the different types of orofacial intervention in an optimized way and adapted to each case according to etiology and motor development
- ♦ Develop attitudes capable of advising and guiding families and healthcare, clinical and educational agents involved in each case Use assertiveness and clarity to obtain optimal interaction
- ♦ Define the profession's limits and competences, and learn well-founded good practices
- ♦ Establish channels of communication, collaboration and coordination with healthcare and social agents
- ♦ Elaborate and write referral reports and speech therapy assessments at orofacial level, in a direct, clear and complete way
- ♦ Perform speech therapy intervention in all the required areas, applying principles of coherent intervention and with professional skill



You will obtain clinical cases on the approach to patients at different stages of development who suffer from Orofacial Disorder”

04

Course Management

The administrative and multidisciplinary teaching staff that integrates this university program has been rigorously selected by TECH, in order to maintain its commitment to quality in all its programs. Thus, medical professionals will have at their disposal in this Master's Degree a specialized faculty with extensive experience in dealing with patients with orofacial disorders and neurological diseases that require rehabilitation. Likewise, the human quality of these professionals will allow students to resolve any doubts they may have about the syllabus.



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A specialized teaching team will guide you over 12 months so you can be up to date in the latest studies on OMT and neurorehabilitation”

Management



Mr. Borrás Sanchis, Salvador

- ♦ Social Integrationist and Clinical Speech Therapist
- ♦ Specialist in Orofacial and Myofunctional Therapy Uner Clinic, Unit of Integral Neurorehabilitation from Brain Injury
- ♦ Teacher at Cefire, Center for Training, Innovation and Educational Resources of the Community of Valencia



Ms. Santacruz García, Estefanía

- ♦ Psychology Specialist
- ♦ Teacher and Speech Therapist
- ♦ Educational Counselor at Generalitat Valenciana, Consejería de Educación (Valencian Regional Government)
- ♦ Pedagogical Director at the DEIAP Institute

Professors

Ms. Álvarez Valdés, Paula del Carmen

- ◆ Clinical Speech Therapist Specialist in Myofunctional Therapy
- ◆ Diploma in Psychodiagnosis and Early Care Treatment
- ◆ Direct collaboration in Dental Office

Dr. Carrasco Delarriva, Concha

- ◆ Specialist in Neuropsychology
- ◆ Assistant Professor, Department of Psychology, San Antonio Catholic University, Murcia, UCAM
- ◆ Child Neuropsychology
- ◆ Master's Degree in Neuropsychology
- ◆ Spanish Association of Clinical Cognitive-Behavioral Psychology
- ◆ Expert in Child and Cognitive Rehabilitation

Ms. Gallego Díaz, Mireia

- ◆ Occupational Therapy Specialist
- ◆ Speech Therapist Expert in Swallowing Disorders
- ◆ Hospital Speech Therapist

Ms. García Gómez, Andrea M^a

- ◆ Clinical Speech Therapist Specialized in Brain Damage
- ◆ Neurologopedist in Neurorehabilitation Unit

Ms. Jiménez Jiménez, Ana

- ◆ Social Worker and Clinical Neuropsychologist
- ◆ Specialized in Brain Injury Neurorehabilitation in Clinical Settings

Ms. López Samper, Belén

- ◆ PSG and Clinical Neuropsychologist
- ◆ Specialized in Child and Adult Neurorehabilitation at Centro Integral de Daño Cerebral

Ms. Martín Bielsa, Laura

- ◆ Speech Therapist Expert in Speech Pathology, Child Development and Early Childhood Attention
- ◆ Diploma in Teaching and Dean of the Professional Association of Speech Therapists of Aragon
- ◆ Director of the Master's Degree in Vocal Therapy, Cardenal Herrera University

Ms. Muñoz Boje, Rocío

- ◆ Occupational Therapist Specialist in Neurorehabilitation
- ◆ Ms. Navarro Maruenda, Laura
- ◆ Specialist in Neuropsychology
- ◆ Expert in Clinical Neuropsychology
- ◆ Specialized in Child and Adult Neurorehabilitation at Centro Integral de Daño Cerebral

Ms. Santacruz García, Raquel

- ◆ Specialist in Nutrition and Dietetics
- ◆ Diploma and Degree in Human Nutrition and Dietetics
- ◆ Nutritional Treatment and Counseling in Medical Pathologies

Mr. Santacruz García, José Luis

- ◆ Psychologist specializing in Congenital and Acquired Brain Injury

Ms. Sanz Pérez, Nekane

- ◆ Clinical Speech Therapist specialized in Acquired Cerebral Palsy
- ◆ Teacher in Iberocardio for Aspace (Main Confederation and Entity for Cerebral Palsy Care in Spain)

Ms. Selva Cabañero, Pilar

- ◆ Nurse Specialist in Obstetric-Gynecological Nursing (Midwife)
- ◆ Obstetric-Gynecological Nursing Teaching Unit, University of Murcia Santa Lucía General University Hospital

05

Structure and Content

TECH uses the most innovative teaching tools on its programs, applying the latest technology in academic qualifications. With these multimedia resources, professionals will be able to obtain the update they are looking for on the scientific evidence surrounding neurorehabilitation, neurodevelopment and infant feeding or swallowing disorders. This extensive and advanced syllabus is complemented by specialized readings and clinical case simulations.



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This Master's Degree will dynamically guide you through a detailed study of the recent advances in neurological rehabilitation and the latest techniques used with ASD patients”

Module 1. Introduction to Neurorehabilitation I: Fundamentals of Neuroanatomy

- 1.1. History of Brain Discovery
 - 1.1.1. Introduction
 - 1.1.2. Stages in Brain History: Mind vs. Brain
 - 1.1.2.1. From Antiquity to the 2nd Century
 - 1.1.2.2. From the 2nd to the 17th Century
 - 1.1.2.3. From the 19th Century to the Present
 - 1.1.3. A Modern Vision of the Brain
 - 1.1.4. Neuropsychological Rehabilitation
 - 1.1.5. Conclusions
 - 1.1.6. Bibliography
- 1.2. Introduction to the Nervous System
 - 1.2.1. Introduction
 - 1.2.2. Neurons
 - 1.2.2.1. Cell Anatomy
 - 1.2.2.2. Cell Functions
 - 1.2.2.3. Classification of Neurons
 - 1.2.2.4. Support Cells or Glia
 - 1.2.3. Transmitting Information
 - 1.2.3.1. Action Potentials
 - 1.2.3.1.1. Resting Potential
 - 1.2.3.1.2. Action Potential
 - 1.2.3.1.3. Postsynaptic Potential, Local or Graded
 - 1.2.4. Neuronal Circuits
 - 1.2.5. Hierarchical Neural Organization
 - 1.2.5.1. Introduction
 - 1.2.5.2. Features
 - 1.2.6. Brain Plasticity
 - 1.2.7. Conclusions





- 1.3. Neurodevelopment
 - 1.3.1. Introduction
 - 1.3.2. Phases in Brain Development
 - 1.3.2.1. Neurogenesis: Proliferation
 - 1.3.2.2. Cell Migration
 - 1.3.2.3. Cell Differentiation
 - 1.3.2.4. Synaptogenesis
 - 1.3.2.5. Apoptosis: Neuronal Death
 - 1.3.2.6. Myelination
 - 1.3.3. Brain Maturation from Birth to Adolescence
 - 1.3.4. Actuation Systems in Newborns: Reflexes
 - 1.3.5. Warning Signs
 - 1.3.6. Conclusions
 - 1.3.7. Bibliography
- 1.4. Central Nervous System
 - 1.4.1. Introduction
 - 1.4.2. Peripheral Nervous System
 - 1.4.3. Central Nervous System
 - 1.4.3.1. CNS Protection System: Meninges
 - 1.4.3.2. Irrigation of the CNS
 - 1.4.3.3. Spinal Cord
 - 1.4.3.4. Brain
 - 1.4.3.4.1. Introduction
 - 1.4.3.4.2.1. Brain Stem
 - 1.4.3.4.2.2. Rhombencephalon or Hindbrain
 - 1.4.3.4.2.3. Mesencephalon or Midbrain
 - 1.4.3.4.2.4. Prosencephalon or Forebrain
- 1.4.4. Conclusions
- 1.4.5. Bibliography

- 1.5. Structural and Functional Organization of the Cerebral Cortex
 - 1.5.1. Introduction
 - 1.5.2. Brodmann Map
 - 1.5.3. Cerebral Hemispheres and Cerebral Cortex: Structural Organization
 - 1.5.3.1. Circumvolutions and Main Sulci: Cerebral Lobes
 - 1.5.3.2. Structure of the Cerebral Cortex
 - 1.5.3.3. White Matter
 - 1.5.3.3.1. Association Fibers
 - 1.5.3.3.2. Commissural Fibers
 - 1.5.3.3.3. Projection Fibers
 - 1.5.4. Cortical Areas: Functional Organization
 - 1.5.5. Conclusions
 - 1.5.6. Bibliography
- 1.6. Spinal Cord Pathways
 - 1.6.1. Spinal Cord
 - 1.6.2. Ascending Cord Pathways
 - 1.6.3. Anatomical Organization
 - 1.6.4. Functions and Lesions of the Ascending Pathways
 - 1.6.5. Descending Cord Pathways
 - 1.6.6. Anatomical Organization
 - 1.6.7. Descending Tract Functions
 - 1.6.8. Descending Tract Lesions
 - 1.6.9. Sensory Receptors
 - 1.6.10. Anatomical Types of Receptors
- 1.7. Cranial Nerves
 - 1.7.1. Essential Basic Vocabulary
 - 1.7.2. History
 - 1.7.3. Introduction
 - 1.7.4. Nerve Components
 - 1.7.5. Classification of Cranial Nerves
 - 1.7.6. Pathologies
 - 1.7.7. Summary
- 1.8. Spinal nerves
 - 1.8.1. Introduction
 - 1.8.2. Components
 - 1.8.3. Dermatomes
 - 1.8.4. Plexus
 - 1.8.5. Cervical Plexus
 - 1.8.6. Brachial Plexus
 - 1.8.7. Lumbar Plexus
 - 1.8.8. Sacral Plexus
 - 1.8.9. Pathologies
- 1.9. Autonomic Nervous System
 - 1.9.1. Basic Vocabulary
 - 1.9.2. General aspects
 - 1.9.3. ANS Functions
 - 1.9.4. Somatic Nervous System vs. Autonomous Nervous System
 - 1.9.5. Organisation
 - 1.9.6. Sympathetic ANS
 - 1.9.7. Parasympathetic ANS
 - 1.9.8. Enteric Nervous System
 - 1.9.9. ANS Disorders
- 1.10. Motor Control
 - 1.10.1. Somatosensory System
 - 1.10.2. Upper Motor Circuit
 - 1.10.3. Movement
 - 1.10.4. Introduction to Motor Control
 - 1.10.5. Clinical Applications of Motor Control and Learning in Neurorehabilitation
 - 1.10.6. Neurological Impairment
 - 1.10.7. Global Summary

Module 2. Introduction to Neurorehabilitation II: Speech Therapy Treatment

- 2.1. Etiology of Brain Damage
 - 2.1.1. Introduction
 - 2.1.2. Vascular Disorders
 - 2.1.2.1. Occlusive Syndromes
 - 2.1.2.2. Types of Cerebrovascular Disease
 - 2.1.2.3. Neuropsychological Disorders in CVA
 - 2.1.3. Intracranial Neoplasms
 - 2.1.3.1. General Characteristics
 - 2.1.3.2. Tumor Classification
 - 2.1.3.3. Neuropsychological Disorders in Tumours
 - 2.1.4. Cranioencephalic Trauma (CET)
 - 2.1.4.1. General Characteristics
 - 2.1.4.2. Types of CET
 - 2.1.4.3. CET Disorders
 - 2.1.5. Neurodegenerative Diseases
 - 2.1.5.1. General Characteristics
 - 2.1.5.2. Types and Disorders
 - 2.1.6. Epilepsy
 - 2.1.6.1. General Characteristics
 - 2.1.6.2. Classification
 - 2.1.7. Central Nervous System Infections.
 - 2.1.7.1. General Characteristics
 - 2.1.7.2. Classification
 - 2.1.8. Cerebrospinal Fluid Circulation and Disorders
 - 2.1.8.1. General Characteristics
 - 2.1.8.2. Disorders
 - 2.1.9. Global Summary
- 2.2. Cognitive Functions I: Attention, Perception and Memory
 - 2.2.1. Introduction to Cognitive Functions
 - 2.2.2. Alertness System
 - 2.2.2.1. Concept:
 - 2.2.2.2. Assessment
 - 2.2.2.3. Disorders
 - 2.2.3. Attention
 - 2.2.3.1. Focused/Selective Attention
 - 2.2.3.1.1. Concept
 - 2.2.3.1.2. Assessment
 - 2.2.3.1.3. Disorders
 - 2.2.3.2. Sustained Attention
 - 2.2.3.2.1. Concept
 - 2.2.3.2.2. Assessment
 - 2.2.3.2.3. Disorders
 - 2.2.3.3. Alternating Attention
 - 2.2.3.3.1. Concept
 - 2.2.3.3.2. Assessment
 - 2.2.3.3.3. Disorders
 - 2.2.3.4. Divided attention
 - 2.2.3.4.1. Concept
 - 2.2.3.4.2. Assessment
 - 2.2.3.4.3. Disorders
 - 2.2.4. Memory
 - 2.2.4.1. Concept
 - 2.2.4.2. Process
 - 2.2.4.3. Classification
 - 2.2.4.4. Assessment
 - 2.2.4.5. Disorders
 - 2.2.5. Perception
 - 2.2.5.1. Concept
 - 2.2.5.2. Assessment
 - 2.2.5.3. Disorders

2.3. Cognitive Functions II: Language and Executive Functions

- 2.3.1. Conceptualization of Executive Functions
- 2.3.2. Executive Functions Assessment
- 2.3.3. Executive Function Disorders
- 2.3.4. Dorsolateral Prefrontal Syndrome
- 2.3.5. Orbitofrontal Syndrome
- 2.3.6. Mesial Frontal Syndrome
- 2.3.7. Conceptualization of Language
- 2.3.8. Language Assessment
- 2.3.9. Language Impairment

2.4. Neuropsychological Assessment

- 2.4.1. Introduction
- 2.4.2. Neuropsychological Assessment Objectives
- 2.4.3. Assessment Variables
- 2.4.4. Diffuse vs. Local Brain Injury
- 2.4.5. Injury Location and Size
- 2.4.6. Injury Depth
- 2.4.7. Distant Effects of the Injury
- 2.4.8. Disconnection Syndrome
- 2.4.9. Injury Time Evolution
- 2.4.10. Intrinsic Patient-Related Variables
- 2.4.11. Quantitative vs. Qualitative Assessment
- 2.4.12. Stages in Neuropsychological Assessment
- 2.4.13. Clinical History and Establishing Therapeutic Relationships
- 2.4.14. Test Administration and Correction
- 2.4.15. Analyzing and Interpreting Results, Preparing Reports and Returning Information

2.5. Neuropsychological Rehabilitation and Speech Therapy Applications

2.5.1. Neuropsychological Rehabilitation I: Cognitive Functions

- 2.5.1.1. Introduction
- 2.5.2. Attention and Perception
 - 2.5.2.1. Training Attention Processes
 - 2.5.2.2. Effectiveness
 - 2.5.2.3. Virtual Reality

2.5.3. Memory

- 2.5.3.1. Basic Principles
- 2.5.3.2. Memory Strategies
- 2.5.3.3. Virtual Reality

2.5.4. Praxis

- 2.5.4.1. Stimulation Strategies
- 2.5.4.2. Specific Tasks

2.5.5. Language

- 2.5.5.1. General Advice
- 2.5.5.2. Specific Tasks

2.5.6. Executive Functions (EF)

- 2.5.6.1. General Advice
- 2.5.6.2. EF Stimulation
 - 2.5.6.2.1. Sohlberg and Mateer
 - 2.5.6.2.2. Executive Deficit Treatment Techniques
- 2.5.6.3. Specific Tasks
- 2.5.6.4. Effectiveness

2.5.7. Summary

2.5.8. Bibliography

2.6. Behavioural Rehabilitation and Speech Therapy Applications

2.6.1. Introduction

2.6.1.1. ERC Reference Model

2.6.1.2. Orientations/Currents

2.6.1.3. Behavior Modification Characteristics

2.6.1.4. Behavior Modification Techniques: General Use/Specific Use

2.6.2. Behavioral Assessment: Observation

2.6.2.1. Define Target Behavior

2.6.2.2. Choose Measurement Methods

2.6.2.3. Record Sheets

2.6.2.4. Contextual Aspects of What Is Observed

2.6.3. Operant Techniques: Behavioral Development

2.6.3.1. Introduction

2.6.3.2. Theoretical Concepts

2.6.3.3. Reinforcement Programs

2.6.3.4. Molding

2.6.3.5. Chaining

2.6.3.6. Fading

2.6.3.7. Negative Reinforcement

2.6.3.8. Scope of Application

2.6.4. Operant Techniques: Behavior Reduction

2.6.4.1. Introduction

2.6.4.2. Extinction

2.6.4.3. Time Off

2.6.4.4. Cost of Response

2.6.4.5. Scope of Application

2.6.5. Operant Techniques: Contingency Organization Systems

2.6.5.1. Introduction

2.6.5.2. Token Economy

2.6.5.3. Behavioral Contracts

2.6.5.4. Scope of Application

2.6.6. Modeling Techniques

2.6.6.1. Introduction

2.6.6.2. Procedure

2.6.6.3. Modeling Techniques

2.6.6.4. Scope of Application

2.6.7. Frequent Behavior in Logopedics

2.6.7.1. Impulsiveness

2.6.7.2. Apathy

2.6.7.3. Disinhibition

2.6.7.4. Anger or Aggressiveness

2.6.8. Conclusions

2.7. Rehabilitation in Occupational Therapy and Speech Therapy Applications

2.7.1. Occupational Therapy

2.7.2. Body Posture in Speech Therapy

2.7.3. Body Posture

2.7.4. Adaptations in Body Posture

2.7.5. Techniques in Neurorehabilitation: Bobath, Affolter, Basal Stimulation

2.7.6. Adaptations/Support Products Useful in Speech Therapy Rehabilitation

2.7.7. Objective of Occupational Therapy as an Integrative Measure

- 2.8. Child Neuropsychology
 - 2.8.1. Introduction
 - 2.8.2. Child Neuropsychology: Definition and General Foundation
 - 2.8.3. Etiology
 - 2.8.3.1. Genetic and Environmental Factors
 - 2.8.3.2. Classification
 - 2.8.3.2.1. Neurodevelopment Disorders
 - 2.8.3.2.2. Acquired Brain Injury
 - 2.8.4. Neuropsychological Assessment
 - 2.8.4.1. General Aspects and Assessment Phase
 - 2.8.4.2. Assessment Tests
 - 2.8.5. Neuropsychological Intervention
 - 2.8.5.1. Family Intervention
 - 2.8.5.2. Educational Intervention
 - 2.8.6. Cognitive Function Development
 - 2.8.6.1. First Childhood (0-2 Years of Age)
 - 2.8.6.2. Preschool Period (2-6 Years of Age)
 - 2.8.6.3. School Period (6-12 Years of Age)
 - 2.8.6.4. Adolescence (12-20 Years of Age)
 - 2.8.7. Conclusions
 - 2.8.8. Bibliography
- 2.9. Family Approach and Therapy
 - 2.9.1. Introduction
 - 2.9.2. Family Care in the Acute and Subacute Phase
 - 2.9.2.1. Acute Phase: Hospital Stay
 - 2.9.2.2. Subacute Phase: Return Home
 - 2.9.2.3. What about after Rehabilitation?
 - 2.9.3. The Family as Part of the Rehabilitation Process
 - 2.9.4. Needs Posed by the Family during the Rehabilitation Process
 - 2.9.5. The Rehabilitation Team
 - 2.9.6. Conclusions
 - 2.9.7. Bibliography

- 2.10. A Transdisciplinary Rehabilitation Example: Clinical Case
 - 2.10.1. Clinical Cases
 - 2.10.2. CET Theories
 - 2.10.3. Broca's Aphasia: Anatomopathological Correlates and Disorders Associated with Broca's Aphasia
 - 2.10.4. Neuropsychological Assessment
 - 2.10.5. Neuropsychological Profile
 - 2.10.6. Results
 - 2.10.7. Deficits and Potentials
 - 2.10.8. Injury Course and Treatment
 - 2.10.9. Specific Objectives for Patients with Broca's Aphasia
 - 2.10.10. Fundamentals of Rehabilitation

Module 3. Anatomy and Physiology of the Voice

- 3.1. Voice Anatomy
 - 3.1.1. Laryngeal Anatomy
 - 3.1.2. Respiratory Structures Involved in Phonation
 - 3.1.2.1. Chest
 - 3.1.2.2. Airway
 - 3.1.2.3. Respiratory Musculature
 - 3.1.3. Laryngeal Structures Involved in Phonation
 - 3.1.3.1. Laryngeal Skeleton
 - 3.1.3.2. Cartilage
 - 3.1.3.3. Joints
 - 3.1.3.4. Musculature
 - 3.1.3.5. Innervation
 - 3.1.4. Structures of the Vocal Tract Involved in Phonation
 - 3.1.4.1. Linear Source-Filter Model
 - 3.1.4.2. Non-Linear Source-Filter Model
- 3.2. Voice Physiology
 - 3.2.1. Histology of Vocal Folds
 - 3.2.2. Biomechanical Properties of the Vocal Folds
 - 3.2.3. Myoelastic Mucocondulatory Theory and Aerodynamic Theory

- 3.3. Pathological Voice
 - 3.3.1. Euphonia vs Dysphonia
 - 3.3.2. Vocal Fatigue
 - 3.3.3. Acoustic Signs of Dysphonia
 - 3.3.4. Classification of Dysphonia
- 3.4. Medical-Surgical Treatment
 - 3.4.1. Phonosurgery
 - 3.4.2. Laryngeal Surgery
 - 3.4.3. Medication in Dysphonia
- 3.5. Physical and Acoustic Aspects
 - 3.5.1. Physical Aspects of the Voice
 - 3.5.1.1. Types of Waves
 - 3.5.1.2. Physical Properties of Sound Waves: Amplitude and Frequency
 - 3.5.1.3. Transmission of Sound
 - 3.5.2. Acoustic Voice Aspects:
 - 3.5.2.1. Intensity
 - 3.5.2.2. Pitch
 - 3.5.2.3. Quality
- 3.6. Objective Voice Assessment
 - 3.6.1. Morphofunctional Exploration
 - 3.6.2. Electroglottography
 - 3.6.3. Aerodynamic Measures
 - 3.6.4. Electromyography
 - 3.6.5. Videochemography
 - 3.6.6. Acoustic Analysis
- 3.7. Perceptual Assessment
 - 3.7.1. GRBAS
 - 3.7.2. RASAT
 - 3.7.3. GBR Score
 - 3.7.4. CAPE-V
 - 3.7.5. VPAS

- 3.8. Functional Assessment
 - 3.8.1. Fundamental Frequency
 - 3.8.2. Phonetogram
 - 3.8.3. Maximum Phonatory Times
 - 3.8.4. Velo-Palatine Efficiency
 - 3.8.5. VHI
- 3.9. Assessing Vocal Quality
 - 3.9.1. Vocal Quality
 - 3.9.2. High-Quality Voice vs. Low-Quality Voice
 - 3.9.3. Vocal Quality Assessment in Voice Professionals
- 3.10. Medical History
 - 3.10.1. The Importance of Medical History
 - 3.10.2. Characteristics of the Initial Interview
 - 3.10.3. Medical History Sections and Voice Implications
 - 3.10.4. Proposal of a Model of Anamnesis for Vocal Pathology

Module 4. Vocal Rehabilitation

- 4.1. Speech Therapy Treatment for Functional Dysphonias
 - 4.1.1. Type I: Isometric Laryngeal Disorder
 - 4.1.2. Type II: Glottic and Supraglottic Lateral Contraction
 - 4.1.3. Type III: Anteroposterior Supraglottic Contraction
 - 4.1.4. Type IV: Conversion Aphonia/Dysphonia and Psychogenic Dysphonia with Arched Vocal Cords
 - 4.1.5. Transitional Adolescent Dysphonia
- 4.2. Speech Therapy Treatment for Organic Dysphonia
 - 4.2.1. Introduction
 - 4.2.2. Speech Therapy in Congenital Origin Dysphonias
 - 4.2.3. Speech Therapy in Acquired Origin Dysphonias
- 4.3. Speech Therapy Treatment for Organic-Functional Dysphonias
 - 4.3.1. Introduction
 - 4.3.2. Objectives in the Rehabilitation of Organic-Functional Pathologies
 - 4.3.3. Proposal of Exercises and Techniques according to the Rehabilitation Objective

- 4.4. Voice in Acquired Neurological Problems
 - 4.4.1. Dysphonias of Neurological Origin
 - 4.4.2. Speech Therapy Treatment
- 4.5. Child Dysphonia
 - 4.5.1. Anatomical Characteristics
 - 4.5.2. Vocal Characteristics
 - 4.5.3. Intervention
- 4.6. Hygiene Therapy
 - 4.6.1. Introduction
 - 4.6.2. Harmful Habits and Their Effect on the Voice
 - 4.6.3. Preventive Measures
- 4.7. Semi-Occluded Vocal Tract Exercises
 - 4.7.1. Introduction
 - 4.7.2. Justification
 - 4.7.3. TVSO
- 4.8. Estill Voice Training as a Technique to Improve Vocal Function
 - 4.8.1. Jo Estill and the Creation of the Model
 - 4.8.2. Principles of Estill Voice Training
 - 4.8.3. Description

Module 5. Orofacial/Myofunctional Therapy (OMT) and Early Care

- 5.1. Neonatal Development
 - 5.1.1. Neonatal Development
 - 5.1.2. NBAS: Neonatal Behavioral Assessment
 - 5.1.3. Early Diagnosis
 - 5.1.4. Neurologic Diagnosis
 - 5.1.5. Habituation
 - 5.1.6. Oral Motor Reflexes
 - 5.1.7. Body Reflexes
 - 5.1.8. Vestibular System
 - 5.1.9. Social and Interactive Media
 - 5.1.10. Use of NBAS in High-Risk Newborns



- 5.2. Eating Disorders in Children
 - 5.2.1. Feeding Processes
 - 5.2.2. Pediatric Swallowing Physiology
 - 5.2.3. Phases in Skill Acquisition
 - 5.2.4. Deficits
 - 5.2.5. Multidisciplinary Work
 - 5.2.6. Warning Symptomatology
 - 5.2.7. Premature Orofacial Development
 - 5.2.8. Feeding Methods: Parenteral, Enteral, Tube, Gastrectomy, Oral (Modified or Unmodified Diet)
 - 5.2.9. Gastroesophageal Reflux
- 5.3. Neurodevelopment and Infant Feeding
 - 5.3.1. Embryonic Development
 - 5.3.2. Appearance of Main Primary Functions
 - 5.3.3. Risk Factors
 - 5.3.4. Evolutionary Milestones
 - 5.3.5. Synaptic Function
 - 5.3.6. Immaturity
 - 5.3.7. Neurological Maturity
- 5.4. Brain-Motor Skills
 - 5.4.1. Innate Orofacial Motor Skills
 - 5.4.2. Evolution of Orofacial Motor Patterns
 - 5.4.3. Reflex Swallowing
 - 5.4.4. Reflex Breathing
 - 5.4.5. Reflex Suction
 - 5.4.6. Assessing Infant Oral Reflexes
- 5.5. Nursing
 - 5.5.1. Early Start
 - 5.5.2. Impact at the Orofacial Level
 - 5.5.3. Exclusivity
 - 5.5.4. Optimal Nutrition
 - 5.5.5. Spontaneous Maturation of Oral Musculature
 - 5.5.6. Muscle Mobility and Synergy
 - 5.5.7. Position
 - 5.5.8. Therapeutic Recommendations
 - 5.5.9. Intellectual Development
 - 5.5.10. Intervention Program
- 5.6. Early Feeding Techniques
 - 5.6.1. Newborn Feeding
 - 5.6.2. Positioning Techniques
 - 5.6.3. Signs of Good Positioning
 - 5.6.4. Key Therapeutic Recommendations
 - 5.6.5. Milk and Non-Milk Formulas
 - 5.6.6. Classification of Formulas
 - 5.6.7. Bottle Feeding Techniques
 - 5.6.8. Spoon Techniques
 - 5.6.9. Techniques for Low-Cut Cup Use
 - 5.6.10. Techniques Tube Use or Alternative Feeding Systems
- 5.7. Speech Therapy Intervention in Neonates
 - 5.7.1. Primary Functions Assessment
 - 5.7.2. Re-Education of Primary Neuromotor Dysfunctions
 - 5.7.3. Primary Intervention
 - 5.7.4. Individual Treatment Planning and Coordination
 - 5.7.5. Oral Motor Exercise Program I
 - 5.7.6. Oral Motor Exercise Program II
 - 5.7.7. Intervention with Families
 - 5.7.8. Early Motor Activation
- 5.8. Child Swallowing Disorders: Block 1
 - 5.8.1. Intake Analysis
 - 5.8.2. Undernourishment
 - 5.8.3. Respiratory Infections: Airway Unit
 - 5.8.4. Complementary Explorations
 - 5.8.5. Quantitative Explorations
 - 5.8.6. Nutritional Treatment
 - 5.8.7. Adaptive Treatment: Posture, Texture, Materials
 - 5.8.8. Performance Program

- 5.9. Rehabilitative Treatment of Infant Oropharyngeal and Esophageal Dysphagia
 - 5.9.1. Symptoms
 - 5.9.2. Etiology
 - 5.9.3. Neurological Damage in Children: High Probability of Presenting a Disorder
 - 5.9.4. Infant Dysphagia
 - 5.9.5. Phases of Normalized Swallowing in Pediatrics vs. Pathological Swallowing
 - 5.9.6. Neurological Maturity: Cognitive, Emotional and Motor Coordination Status
 - 5.9.7. Impossibility of Oral Feeding
 - 5.9.8. Early Care: High Probability of Recovering
- 5.10. Child Swallowing Disorders: Block 2
 - 5.10.1. Types Neuroanatomical and Behavior-Based Classification
 - 5.10.2. Functional Maturational Dysphagia
 - 5.10.3. Degenerative Diseases
 - 5.10.4. Cardiorespiratory Pathologies
 - 5.10.5. Congenital Brain Damage
 - 5.10.6. Childhood Acquired Brain Injury (CABI)
 - 5.10.7. Craniofacial Syndromes
 - 5.10.8. Autism Spectrum Disorders

Module 6. Assessment and Intervention in Dysphagia of Neurological Origin in Adults

- 6.1. Swallowing: Definition and Anatomy
 - 6.1.1. Definition of Swallowing
 - 6.1.2. Swallowing Anatomy: Structures
 - 6.1.2.1. Oral Cavity
 - 6.1.2.2. Pharynx
 - 6.1.2.3. Larynx.
 - 6.1.2.4. Oesophageal
 - 6.1.3. Swallowing Anatomy: Neurological Control
 - 6.1.3.1. Central Nervous System
 - 6.1.3.2. Cranial Nerves
 - 6.1.3.3. Autonomic Nervous System
- 6.2. Swallowing: The Swallowing Process
 - 6.2.1. Phases of Swallowing
 - 6.2.1.1. Preoral Phase
 - 6.2.1.2.1. Oral Preparatory Phase
 - 6.2.1.2.2. Oral Transport Phase
 - 6.2.1.2. Oral Phase
 - 6.2.1.3. Pharyngeal Phase
 - 6.2.1.4. Esophageal Phase
 - 6.2.2. Valve System
 - 6.2.3. Biomechanics of Swallowing
 - 6.2.3.1. Swallowing Liquids
 - 6.2.3.2. Swallowing Semi-Solids
 - 6.2.3.3. Swallowing Solids: Chewing
 - 6.2.4. Breathing-Swallowing Coordination
- 6.3. Introduction to Dysphagia
 - 6.3.1. Definition
 - 6.3.2. Etiology and Prevalence
 - 6.3.2.1. Functional Causes
 - 6.3.2.2. Organic Causes
 - 6.3.3. Classification
 - 6.3.3.1. Types of Dysphagia
 - 6.3.3.2. Severity of Dysphagia
 - 6.3.4. Structural vs. Neurogenic Dysphagia
 - 6.3.5. Signs and Symptoms of Dysphagia

- 6.3.6. Safety and Efficacy Concepts
 - 6.3.6.1. Safety Complications
 - 6.3.6.2. Efficacy Complications
- 6.3.7. Brain Damage Dysphagia
- 6.3.8. Dysphagia in the Elderly
- 6.4. Medical Assessment of Dysphagia
 - 6.4.1. Medical Anamnesis
 - 6.4.2. Scales of Assessment and Screening
 - 6.4.2.1. EAT-10
 - 6.4.2.2. V-VST. Volume-Viscosity Swallow Test
 - 6.4.2.2.1. How to Perform the V-VST
 - 6.4.2.2.2. Useful Tips when Using V-VST
 - 6.4.3. Instrumental Tests
 - 6.4.3.1. Fibroendoscopy (FEES)
 - 6.4.3.2. Videofluoroscopy (VFS)
 - 6.4.3.3. Fibroendoscopy vs. Videofluoroscopy
 - 6.4.3.4. Pharyngoesophageal Manometry
- 6.5. Speech Therapy Assessment of Dysphagia
 - 6.5.1. Anamnesis
 - 6.5.2. General Patient Assessment
 - 6.5.2.1. Physical Exploration
 - 6.5.2.2. Cognitive Examination
 - 6.5.3. Clinical Patient Exploration
 - 6.5.3.1. Structural Assessment
 - 6.5.3.2. Oral Motor and Sensory Examination
 - 6.5.3.3. Cranial Nerves Assessment
 - 6.5.3.4. Reflex Assessment
 - 6.5.3.5. Exploring Swallowing by Phases (without Bolus)
 - 6.5.3.6. Using Auscultation and Sound Assessment
 - 6.5.3.7. Respiratory and Phonation Assessment
- 6.5.4. Tracheostomy Patient Assessment
- 6.5.5. Severity and Quality of Life Scales. Assessment of Nutritional Status
- 6.6. Assessment of Nutritional Status
 - 6.6.1. Importance of Nutrition
 - 6.6.2. Screening Scales in Nutrition
 - 6.6.2.1. Malnutrition Universal Screening Tool (MUST)
 - 6.6.2.2. Mini Nutritional Assessment (MNA)
 - 6.6.2.3. Nutritional Risk Screening 2002 (NRS 2002)
 - 6.6.3. Nutritional Assessment
 - 6.6.4. Undernourishment
 - 6.6.5. Dehydration
 - 6.6.6. Nutritional Supplements
 - 6.6.7. Alternatives to Oral Feeding
 - 6.6.7.1. Enteral Nutrition
 - 6.6.7.1.1. Naso/Oroenteral Tube Nutrition
 - 6.6.7.1.2. Nutrition by Gastrostomy
 - 6.6.7.1.3. Comparing Types of Enteral Nutrition
 - 6.6.7.2. Parenteral Nutrition
- 6.7. Dysphagia Rehabilitation Using Compensatory Techniques
 - 6.7.1. Rehabilitation Treatment Objectives
 - 6.7.2. Postural Techniques
 - 6.7.3. Consistency Modifications
 - 6.7.4. Modifying Intake Volume and Speed
 - 6.7.5. Modifying Food at the Perceptual Level
 - 6.7.6. New Textures
 - 6.7.7. Adapting Utensils for Intake
 - 6.7.8. Guidelines for Patients and Family
 - 6.7.8.1. Adaptation to Surroundings
 - 6.7.8.2. Drug Administration
 - 6.7.8.3. Oral Hygiene

- 6.8. Dysphagia Rehabilitation Using Rehabilitation Techniques I
 - 6.8.1. Inclusion/Exclusion Criteria in Treatments Using Rehabilitation Techniques
 - 6.8.2. Swallowing Maneuvers
 - 6.8.3. Techniques to Exercise Swallowing Musculature
 - 6.8.3.1. Orofacial Myofunctional Therapy
 - 6.8.3.1.1. Soft Tissues Manipulation
 - 6.8.3.1.2. Sensory Enhancement Techniques
 - 6.8.3.1.3. Specific Exercises
 - 6.8.3.1.3.1. Tongue
 - 6.8.3.1.3.2. Lips/Buccinator Muscles
 - 6.8.3.1.3.3. Masticatory Muscles
 - 6.8.3.1.3.4. Palatal Veil
 - 6.8.3.2. Techniques to Stimulate Swallowing Reflex
 - 6.8.3.3. Bolus Propulsion Exercises
 - 6.8.3.4. Laryngeal Elevation (Hyoid Excursion) Exercises
 - 6.8.3.5. Exercises to Improve Glottic Closure
- 6.9. Dysphagia Rehabilitation Using Rehabilitation Techniques II
 - 6.9.1. Dysphagia Treatment based on Symptomatology
 - 6.9.2. Breathing Treatment
 - 6.9.3. Positioning
 - 6.9.4. Diet Implementation
 - 6.9.5. Use of Botulinum Toxin
 - 6.9.6. Neuromuscular Bandaging
 - 6.9.6.1. Rigid Bandages
 - 6.9.6.2. Flexible Bandages
 - 6.9.7. Electrotherapy in Swallowing
 - 6.9.8. New Technologies

- 6.10. Useful Content for Speech Therapists Working in Dysphagia
 - 6.10.1. CPR in Diet
 - 6.10.2. Diet Rheology
 - 6.10.3. Additional Information

Module 7. Dentistry and Orofacial Disorder

- 7.1. Dentition
 - 7.1.1. Introduction
 - 7.1.2. Tooth Growth and Development
 - 7.1.3. Classification
 - 7.1.4. Primary Dentition
 - 7.1.5. Mixed Dentition
 - 7.1.6. Permanent Dentition
 - 7.1.7. Tooth Formation and Development
- 7.2. Normal/Typical and Pathological Pattern
 - 7.2.1. Introduction
 - 7.2.2. Apparatus
 - 7.2.3. Dentolabial Deformities
 - 7.2.4. Eruptive Abnormalities
 - 7.2.5. Pathologic Patterns and Congenital Disorders
 - 7.2.6. Clinical Assessment and Examination
 - 7.2.7. Clinical Intervention
 - 7.2.8. Multidisciplinary Perspective

7.3. Clinical Examination and Radiographic Analysis

- 7.3.1. Introduction
- 7.3.2. Overview
- 7.3.3. Teleradiography
- 7.3.4. Ricketts' Circular Analysis
- 7.3.5. Steiner's Cephalometric Analysis
- 7.3.6. Bone Radiography
- 7.3.7. Bibliography

7.4. Assessment

- 7.4.1. Introduction
- 7.4.2. Orofacial System Functions
- 7.4.3. Aesthetic/Biofacial Analysis
- 7.4.4. Anatomical-Functional Assessment
- 7.4.5. Orofacial System Functions Assessment
- 7.4.6. Atypical Swallowing
- 7.4.7. Myofunctional Assessment Protocol
- 7.4.8. Bibliography

7.5. Function and Form

- 7.5.1. Introduction
- 7.5.2. Breathing and Swallowing Disorders
- 7.5.3. Breathing and Swallowing
- 7.5.4. Bruxism
- 7.5.5. Joint and Jaw Examination I
- 7.5.6. Joint and Jaw Examination I
- 7.5.7. Mandibular Dynamics Study
- 7.5.8. Bibliography

7.6. Speech Therapy Intervention

- 7.6.1. Introduction
- 7.6.2. Mouth Breathing
- 7.6.3. Oral Dysfunction
- 7.6.4. Speech Therapy Intervention in Oral Breathing
- 7.6.5. Atypical Swallowing
- 7.6.6. Speech Therapy Intervention in Atypical Swallowing
- 7.6.7. Temporomandibular Joint (TMJ)
- 7.6.8. Speech Therapy Intervention in TMJ
- 7.6.9. Bibliography

7.7. Occlusion and Malocclusion

- 7.7.1. Introduction
- 7.7.2. Temporal Occlusion
- 7.7.3. Temporal Occlusion Development
- 7.7.4. Permanent Occlusion
- 7.7.5. Permanent Occlusion Development
- 7.7.6. Physiological and Non-Physiological Occlusion
- 7.7.7. Static and Dynamic Occlusion
- 7.7.8. Multidisciplinary Treatment
- 7.7.9. Bibliography

7.8. Main Occlusion Classification

- 7.8.1. Introduction
- 7.8.2. Features
- 7.8.3. Anteroposterior Classification
- 7.8.4. Transversal Syndrome I
- 7.8.5. Transversal Syndrome II
- 7.8.6. Vertical Syndromes
- 7.8.7. Etiopathogenesis of Malocclusions
- 7.8.8. Bibliography

- 7.9. Dentistry and Speech Therapy
 - 7.9.1. Introduction
 - 7.9.2. Multidisciplinary Work
 - 7.9.3. Extraoral Examination
 - 7.9.4. Intraoral Examination
 - 7.9.5. Functional Examination
 - 7.9.6. Dentistry and Oral Function
 - 7.9.7. Bibliography
 - 7.9.8. Speech Therapy Intervention in Orofacial Disorder
- 7.10. Case Studies
 - 7.10.1. Introduction
 - 7.10.2. Case Study 1
 - 7.10.3. Case Study 2
 - 7.10.4. Case Study 3
 - 7.10.5. Case Study 4
 - 7.10.6. Bibliography

Module 8. Dietary Alteration in Congenital Neurological Disorder. Cerebral Palsy in Children (CPC)

- 8.1. Main Vital Functions Assessment
 - 8.1.1. Breathing
 - 8.1.2. Respiratory Pattern and Classification
 - 8.1.3. Airway Analysis
 - 8.1.4. Chewing
 - 8.1.5. Swallowing
 - 8.1.6. Stomatognathic System Structures Involved in Swallowing
 - 8.1.7. Neurological Structures Involved in Swallowing
 - 8.1.8. Neurological Control of Swallowing
 - 8.1.9. Neurogenic Dysphagia
 - 8.1.10. Relation between Breathing and Swallowing: Importance of Breathing-Swallowing Coordination during Swallowing





- 8.2. Detection and Early Onset Diagnosis of Autism Spectrum Disorder
 - 8.2.1. Neurological Disorders and Stomatognathic Development
 - 8.2.2. Cranial Nerve Assessment
 - 8.2.3. Oral Function Development
 - 8.2.4. Facial Structure Growth
 - 8.2.5. Orofacial System Disorders
 - 8.2.6. Orofacial Maturation
 - 8.2.7. Respiratory Structures
 - 8.2.8. Facial Musculature
 - 8.2.9. Oral Musculature
 - 8.2.10. Laryngeal Musculature
- 8.3. Methodological Principles
 - 8.3.1. Individualized Assessment for Diet Characteristics
 - 8.3.2. Oral Reflexes Assessment
 - 8.3.3. Diet and Cerebral Palsy, Main Associated Problems
 - 8.3.4. Safety and Efficacy Disorders
 - 8.3.5. Clinical Examination of Swallowing: What Tests Are Most Appropriate for People with CP?
 - 8.3.6. Physical Examination - Gross Motor Function and Nutrition
 - 8.3.7. Instrumental Examination
 - 8.3.8. Which Diagnostic Test is the Most Effective for Diagnosing Dysphagia in People with CP?
 - 8.3.9. Importance of Interdisciplinary Work in the Assessment of Dysphagia
 - 8.3.9.1. How to Deal with the Assessment of Swallowing in People with CP?
 - 8.3.9.2. When Should I Refer the Patient?
 - 8.3.10. Procedure for Action in the Event of a Swallowing and/or Nutritional Problem

- 8.4. General Diet Intervention Guidelines
 - 8.4.1. Definition
 - 8.4.2. Main Characteristics
 - 8.4.3. Speech Therapy Intervention and Treatment
 - 8.4.4. Multidisciplinary Neurorehabilitation Treatment
 - 8.4.5. Symptoms
 - 8.4.6. Muscular Dysfunction
 - 8.4.7. Active Control
 - 8.4.8. Case Analysis
- 8.5. Dietary Problems in Children with ASD: Single Case Intervention Proposal. Part One
 - 8.5.1. Definition
 - 8.5.2. Main Characteristics
 - 8.5.3. Speech Therapy Intervention and Treatment
 - 8.5.4. Multidisciplinary Neurorehabilitation Treatment
 - 8.5.5. Symptoms
 - 8.5.6. Muscular Dysfunction
 - 8.5.7. Active Control
 - 8.5.8. Case Analysis
- 8.6. Dietary Problems in Children with ASD: Single Case Intervention Proposal. Part Two
 - 8.6.1. First Phase: Postural, Oral and Nasal Hygiene
 - 8.6.2. Implementing New Oral Habits
 - 8.6.3. Creating Routines and Neuromotor Behaviors with High Frequency and Minimal Intensity
 - 8.6.4. Second Phase: Intervention Program based on Structure Analysis
 - 8.6.5. Creating Individualized Programs
 - 8.6.6. Selecting Favorable Oral Motor Exercises
 - 8.6.7. Third Phase: Feeding Strategies and Competences
 - 8.6.8. Positioning
 - 8.6.9. Developing Strategies for Adequate Oral Feeding
 - 8.6.10. Enteral Feeding
- 8.7. Developing Strategies and Action Plans
 - 8.7.1. Type of Diet
 - 8.7.2. Texture and Consistency Adaptation
 - 8.7.3. Volume Modification
 - 8.7.4. Anticipation: Sensitive Strategies
 - 8.7.5. Postural Adaptation Assessment
 - 8.7.6. Importance of Food Taste and Appearance without Forgetting the Safety Factor - Textured Food
 - 8.7.7. Meal Environment and Duration
 - 8.7.8. Adequate Nutritional Value
 - 8.7.9. Diet-Related Support Systems and Support Products
 - 8.7.10. Case Analysis and Decision-Making
- 8.8. Adaptations and Assistance from Occupational Therapists
 - 8.8.1. Functional Positioning Importance of the "Eater" and "Feeder"
 - 8.8.2. Technical Positioning Aids for Feeders
 - 8.8.3. Technical Positioning Aids for CP People during Feeding
 - 8.8.4. Support Products related to Feeding
 - 8.8.5. Creating Adaptations
 - 8.8.6. Importance of Posture in People on Enteral Nutrition: Relevant Aspects
 - 8.8.7. Participatory Feeding and Autonomy during Feeding
 - 8.8.8. Occupational Therapy and Speech Therapy
- 8.9. Oropharyngeal Dysphagia in CPC
 - 8.9.1. Referrals and Multidisciplinary Team
 - 8.9.2. Adapting Feeding
 - 8.9.3. Family and Medical Intervention
 - 8.9.4. Assessing Swallowing Process
 - 8.9.5. Individualized Intervention
 - 8.9.6. Texture and Volume Modification as Fundamental Aspects

- 8.9.7. Sensory Enhancement Techniques
- 8.9.8. How to Deal with Oral Sensitivity Problems
- 8.9.9. Postural Changes and Swallowing Facilitating Maneuvers
- 8.9.10. Drug Intake Aids/Oral Hygiene Products
- 8.9.11. Importance of Maintaining Intraoral Stimulation in People on Enteral Nutrition
- 8.10. Nutrition and Cerebral Palsy
 - 8.10.1. Concept of Nutrition: Growth and Development
 - 8.10.2. Relation between Nutrition and Brain Damage, Main Associated Problems
 - 8.10.3. Importance of Maintaining an Adequate Nutritional Intake
 - 8.10.4. Malnutrition, Undernutrition and Dehydration Concepts and Consequences
 - 8.10.5. Basic and Necessary Nutrients
 - 8.10.6. Importance of Nutritional Monitoring and Assessment in CP People
 - 8.10.7. Techniques to Achieve Adequate Nutritional Support; Increased Caloric Density, Oral Modules, Oral Supplementation and Enteral Nutrition
 - 8.10.8. Importance of Person-Centered Nutrition: Individualized Plans
 - 8.10.9. Enteral Nutrition

Module 9. Feeding Problems in Pervasive Developmental Disorders: Autism

- 9.1. Definition and History
 - 9.1.1. Introduction
 - 9.1.2. Conceptual Review
 - 9.1.2.1. History
 - 9.1.2.2. Prevalence
 - 9.1.2.3. DSM Inclusion
 - 9.1.3. Current Classification
 - 9.1.3.1. Change from DSM-IV to DSM-V
 - 9.1.3.2. Autism Spectrum Disorder 299.00 (F84.0)
 - 9.1.3.3. Conclusions
 - 9.1.3.4. Bibliography
- 9.2. Early Detection and Diagnosis
 - 9.2.1. Introduction
 - 9.2.2. Social Communication and Interaction
 - 9.2.3. Communication Skills
 - 9.2.4. Social Interaction Skills
 - 9.2.5. Behavioral and Thought Flexibility
 - 9.2.6. Sensory Processing
 - 9.2.7. Scales and Instruments
 - 9.2.8. Conclusions
 - 9.2.9. Bibliography

- 9.3. Heterogeneity in Autism
 - 9.3.1. Introduction
 - 9.3.2. Age-Related Factors
 - 9.3.3. Onset of Signs
 - 9.3.4. Autism in Preschool
 - 9.3.5. Autism in School
 - 9.3.6. Autism in Adolescence
 - 9.3.7. Autism in Adulthood
 - 9.3.8. Sex-Related Factors
 - 9.3.9. Etiology-Related Factors
 - 9.3.10. Conclusions
- 9.4. Comorbidity
 - 9.4.1. Introduction
 - 9.4.2. Expressive Language Disorders
 - 9.4.3. Most Prevalent Comorbid Disorders
 - 9.4.4. ADHD
 - 9.4.5. Anxiety and Depression
 - 9.4.6. Obsessions and Compulsions
 - 9.4.7. Dyssomnias and Parasomnias
 - 9.4.8. Movement Abnormalities
 - 9.4.9. Tourette Syndrome
 - 9.4.10. Disorders Associated with ASD in Childhood
 - 9.4.11. High-Functioning Autism
 - 9.4.12. Family and Environment
 - 9.4.13. Conclusions
- 9.5. Family and Environment Intervention
 - 9.5.1. Introduction
 - 9.5.2. Intervention with Families
 - 9.5.3. Referents to Adapt Family Situation
 - 9.5.4. Environmental Intervention
 - 9.5.5. Family Therapy
 - 9.5.6. Conclusions
- 9.6. Nutrition in Children with Autism
 - 9.6.1. Introduction
 - 9.6.2. Specific Diet Characteristics
 - 9.6.3. Metabolism
 - 9.6.4. Enzyme Deficiency
 - 9.6.5. Food
- 9.7. Specific Problems and Inappropriate Intervention Patterns
 - 9.7.1. Not Accepting Spoon Feeding
 - 9.7.2. Leaving Food in the Mouth
 - 9.7.3. Chewing
 - 9.7.4. Hyperselectivity
 - 9.7.5. Crying
 - 9.7.6. Inadequate Guidelines
 - 9.7.7. Recommendations
 - 9.7.8. Conclusions
- 9.8. Dietary Problems in Children with Autism
 - 9.8.1. Introduction
 - 9.8.2. Strategies
 - 9.8.4. Intervention Guidelines
 - 9.8.5. Recommendations
 - 9.8.6. Order of Food Introduction
 - 9.8.7. Conclusions
- 9.9. Clinical Cases: Solid Food Refusal
 - 9.9.1. Medical History Qualitative Assessment of Communication and Language
 - 9.9.2. Structural and Functional Orofacial Assessment
 - 9.9.2.1. Intervention Strategies
 - 9.9.3. Intervention Programs

- 9.9.4. Respiratory Function
 - 9.9.4.1. Awareness and Control of Respiratory Functions
 - 9.9.4.1.1. Nasal Hygiene
 - 9.9.4.1.2. Postural Hygiene
 - 9.9.4.2. Nasal Breathing and Nasal Murmur
 - 9.9.4.3. Enhancing Olfactory Sensory Response
- 9.9.5. Dietary Function
- 9.9.6. Oral Sensitivity
 - 9.9.6.1. Oral Hygiene
 - 9.9.6.2. Oral Stimulation
- 9.9.7. Oral Motor Skills
 - 9.9.7.1. Oral Stereognosia
 - 9.9.7.2. Gag Reflex Inhibition
 - 9.9.7.3. Taste Stimulation
- 9.9.8. Masticatory Muscle Relaxation
- 9.9.9. Chewing without Food
- 9.9.10. Chewing with Food
- 9.9.11. Conclusions on Speech Therapy Intervention
- 9.10. Etiopathogenesis
 - 9.10.1. Introduction
 - 9.10.2. Endocrine System
 - 9.10.3. Genetics and Heritability
 - 9.10.4. Functional Magnetic Resonance Imaging
 - 9.10.5. Oxytocinergic System
 - 9.10.6. Conclusions
 - 9.10.7. Bibliography
 - 9.10.7.1. Conclusions
 - 9.10.7.2. Bibliography



*A unique, key, and decisive
training experience to boost your
professional development"*

06 Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



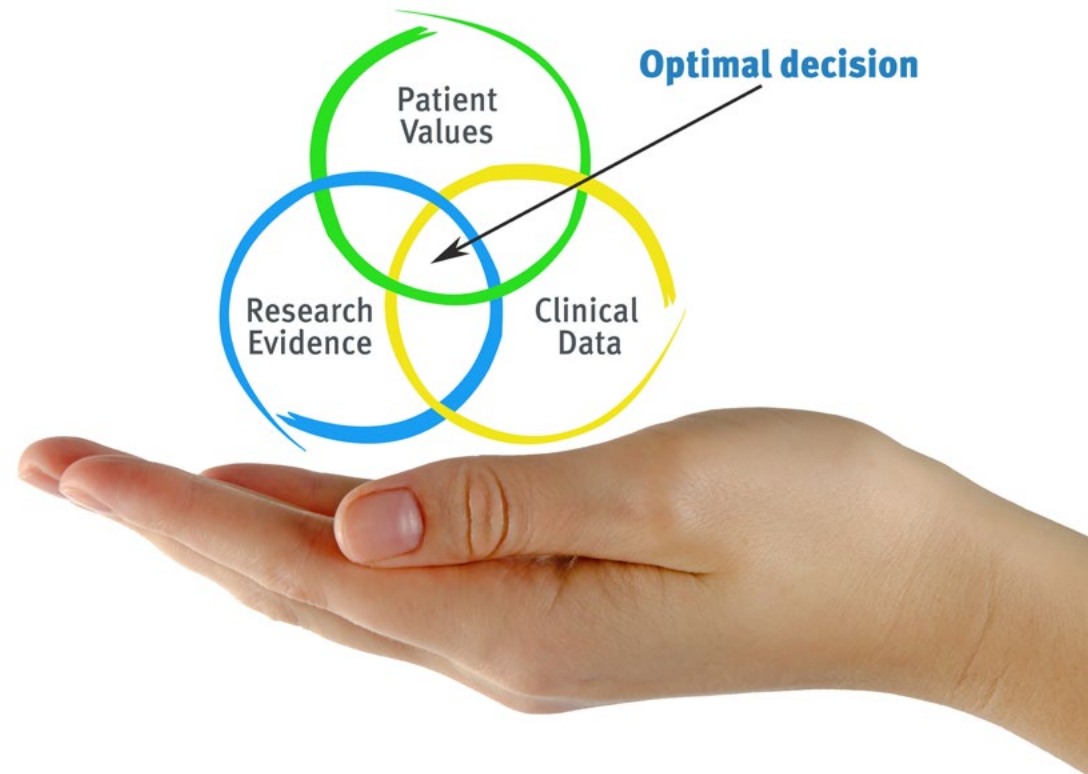
“

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

“

Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

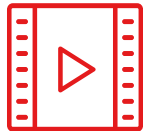
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



Interactive Summaries

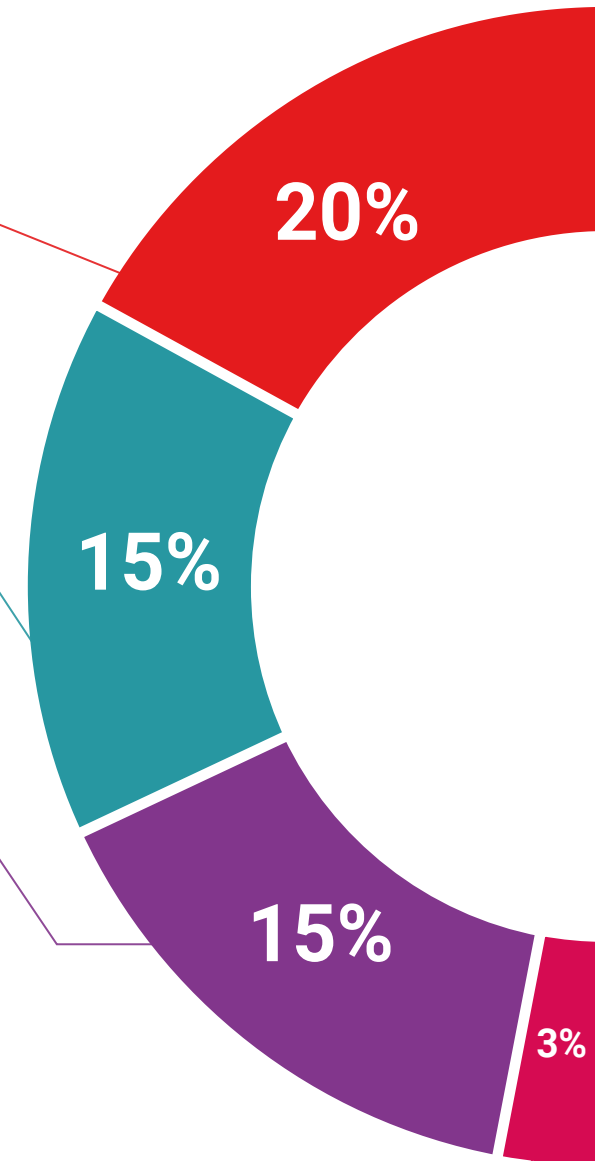
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

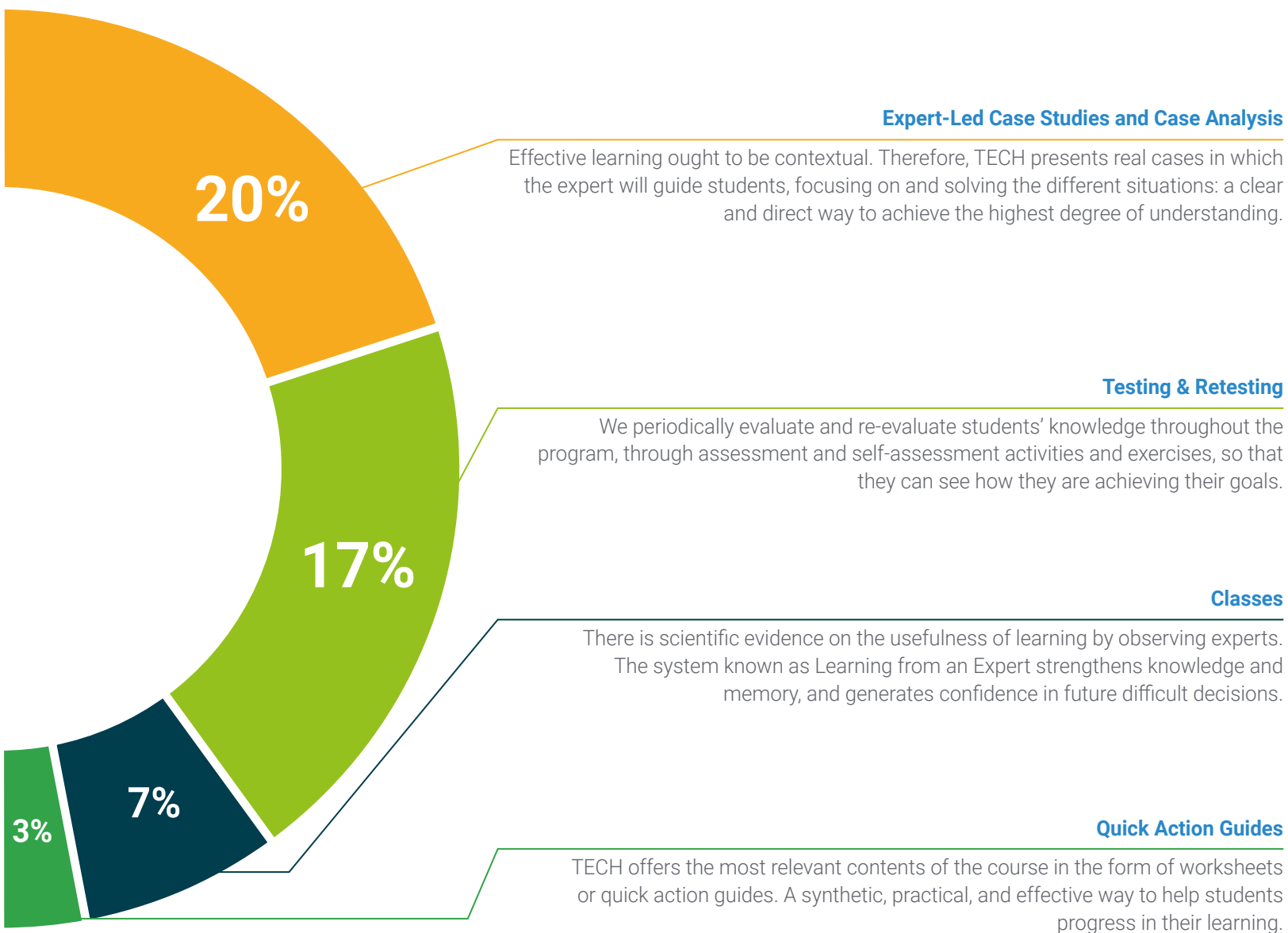
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





07 Certificate

This Master's Degree in Speech Neurorehabilitation and Vital Function Analysis. Orofacial and Myofunctional Therapy for Physicians guarantees students, in addition to the most rigorous and up-to-date education, access to a Master's Degree issued by TECH Global University.



“

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This program will allow you to obtain your **Master's Degree in Speech Neurorehabilitation and Vital Function Analysis. Orofacial and Myofunctional Therapy for Physicians** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

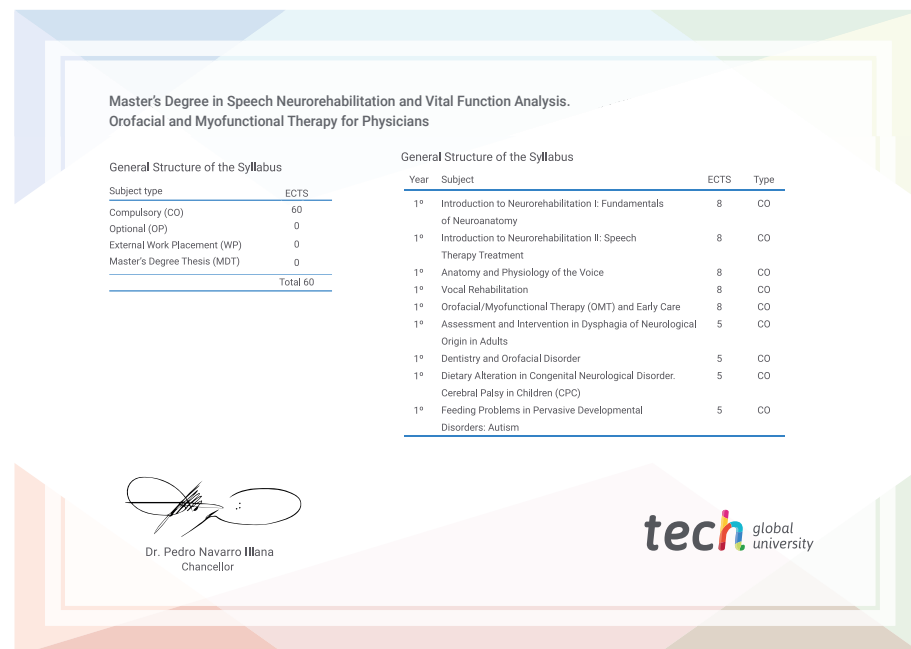
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Speech Neurorehabilitation and Vital Function Analysis. Orofacial and Myofunctional Therapy for Physicians**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**





Master's Degree

Speech Neurorehabilitation
and Vital Function Analysis.
Orofacial and Myofunctional
Therapy for Physicians

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Master's Degree

Speech Neurorehabilitation
and Vital Function Analysis.
Orofacial and Myofunctional
Therapy for Physicians