

# Hybrid Professional Master's Degree

## Hair Transplantation





## Hybrid Professional Master's Degree Hair Transplantation

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1.620 h.

Website: [www.techtute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-hair-transplantation](http://www.techtute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-hair-transplantation)

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# 01

# Introduction

Due to the growing importance of personal image in contemporary society, hair transplants have become one of the most popular procedures today. As a result, the demand for this surgery has significantly increased in recent years, leading to a growing need for specialized medical professionals who are up to date with the latest advancements in this type of transplant to meet the patients' needs. This program offers the opportunity to complete a theoretical program and participate in a practical internship at a leading clinic specializing in these types of procedures. This enables students to become highly sought-after professionals with the best skills to become experts in hair transplants.



A close-up photograph of a person's dark hair being measured with a white ruler. The ruler shows markings from 0.4 to 0.8. The background is a blurred clinical setting. The image is partially obscured by a dark blue geometric shape in the top right corner and a white diagonal shape in the bottom right corner.

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*This program will allow you to stay up-to-date with the latest advancements in Hair Transplantation by combining the most advanced online content with a practical internship at a renowned clinical center in this aesthetic field”*

In today's world, personal appearance holds significant weight in numerous aspects of life. It influences personal, family, social, and professional relationships. It also affects an individual's self-perception and confidence. This is because one's appearance is the initial element that others perceive, and that first impression can determine the nature of the relationship. For this reason, personal appearance is an increasingly valued quality among individuals of various backgrounds, social groups, ages, and genders.

It is no surprise, therefore, that various treatments, techniques, and procedures are gaining popularity and becoming more widespread to help modify and address physical characteristics with which different individuals may not feel completely secure. One of these procedures is Hair Transplantation.

Hair Transplantation is one of the fastest-growing practices in plastic surgery today. Hair loss affects a large number of people. From the age of 25, one in four men will begin to suffer from hair loss. By the age of 50, this percentage increases to 50% of men. Women are not immune to this disorder, either. This way, it can be deduced that it is a widespread and far-reaching issue that an increasing number of people are trying to address.

For this reason, there is a need for qualified professionals who specialize in hair transplants and have access to the most up-to-date tools and techniques for performing such procedures. This is an area that demands the integration of new medical experts in the field who can join aesthetic clinics or pursue a more independent professional career.

Furthermore, this specialization requires both theoretical and practical knowledge, and for that reason this Hybrid Professional Master's Degree in Hair Transplantation covers the whole spectrum of updating necessary to offer the professional the most advanced contents in this clinical field that is undergoing continuous transformations. Through comprehensive and in-depth education, with a practical focus, medical practitioners will gain the knowledge, techniques, and procedures necessary to apply the most effective methods for each specific case in their daily practice.

This **Hybrid Professional Master's Degree in Hair Transplantation** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Development of more than 100 clinical cases prepared by professionals from aesthetic medicine with extensive level of experience in this sector
- ♦ 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
- ♦ Teaching of practical techniques and theoretical content specially designed for the professional development of students
- ♦ A comprehensive overview of the entire field of aesthetic medicine to properly contextualize the area of hair transplants
- ♦ Innovation and presentation of novel content to ensure students acquire the best knowledge
- ♦ A practical focus that will underpin the entire Hybrid Professional Master's Degree
- ♦ Access to the latest scientific advancements applied to the subject matter
- ♦ All this will be complemented by 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
- ♦ Furthermore, you will be able to carry out a clinical internship in a large hospital centers



*Stay updated comfortably and quickly in Hair Transplantation through the combination of theory and practice offered by this program"*

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*Hair transplants have seen significant technical and scientific advancements in recent years. This program makes them accessible to you through hands-on learning, including an in-person internship at a highly prestigious clinic”*

In this proposal for a professionalizing Hybrid Master's program, the focus is on updating and exploring the field of hair transplants for medical professionals seeking specialization in aesthetic medicine. The content is based on the latest scientific evidence and pedagogically oriented to integrate theoretical knowledge into the practice of Hair Transplantation, enabling professionals to carry out the various actions involved in this process and apply them in their professional life.

Thanks to their multimedia content developed with the latest educational technology, they will allow the medical professional to learn in a contextual and situated learning environment, 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 the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*This Hybrid Professional Master's Degree does not beat around the bush: acquire theoretical knowledge and put it into practice with the clinical internship it offers.*

*Update your knowledge and gain experience, making your professional career more attractive.*



# 02

## Why Study this Hybrid Professional Master's Degree?

Traditional learning methods are the most effective when it comes to tackling disciplines as complex and dynamic as Hair Transplantation. Therefore, understanding new techniques and others that have evolved to become established in this field, such as the FUE method, is not straightforward through a purely theoretical education system. For this reason, TECH has designed this program, which combines an online phase where students will have access to multimedia resources like interactive summaries, videos, and infographics, with a practical internship at a highly reputable clinical center in this field.







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*Gain access to a real and demanding professional environment in the field of Hair Transplantation with TECH and stay up to date in an active and participatory manner”*

### **1. Updating from the Latest Technology Available**

The latest technical and technological advancements in Hair Transplantation make it necessary for professionals to stay up to date in order to incorporate the most innovative procedures into their daily work. Therefore, through this program, TECH provides the opportunity to undergo a clinical internship at a facility equipped with state-of-the-art equipment in this aesthetic field, ensuring a comprehensive process of updating.

### **2. Gaining In-depth Knowledge from the Experience of Top Specialists**

An extensive and prestigious team of specialists and professionals will accompany the student throughout the entire internship program. Therefore, not only will they receive continuous guidance in all diagnostic and procedural processes, but they will also have access to real cases, applying treatments and techniques, ensuring a practical learning experience beyond solely theoretical principles.

### **3. Entering First-Class Clinical Environments**

The high prestige of the centers chosen by TECH is evidence of the care that this institution puts into each of its academic processes. Therefore, the student will be able to develop their skills in a real and demanding professional environment through these internships, which will benefit them greatly in their own clinical practice.





#### 4. Combining the Best Theory with State-of-the-Art Practice

The approach of this program ensures a comprehensive update in Hair Transplantation. This is because its two-stage structure, the first being theoretical-practical and online, and the second being entirely practical and in-person, makes the learning process gradual and oriented towards professional performance, enabling the student to immediately apply the new aesthetic techniques and procedures acquired.

#### 5. Expanding the Boundaries of Knowledge

TECH offers the possibility of doing this Internship Program, not only in national, but also in international centers. This way, the specialist will be able to expand their frontiers and catch up with the best professionals, who practice in first class centers and in different continents. A unique opportunity that only TECH, the largest online university in the world, could offer.

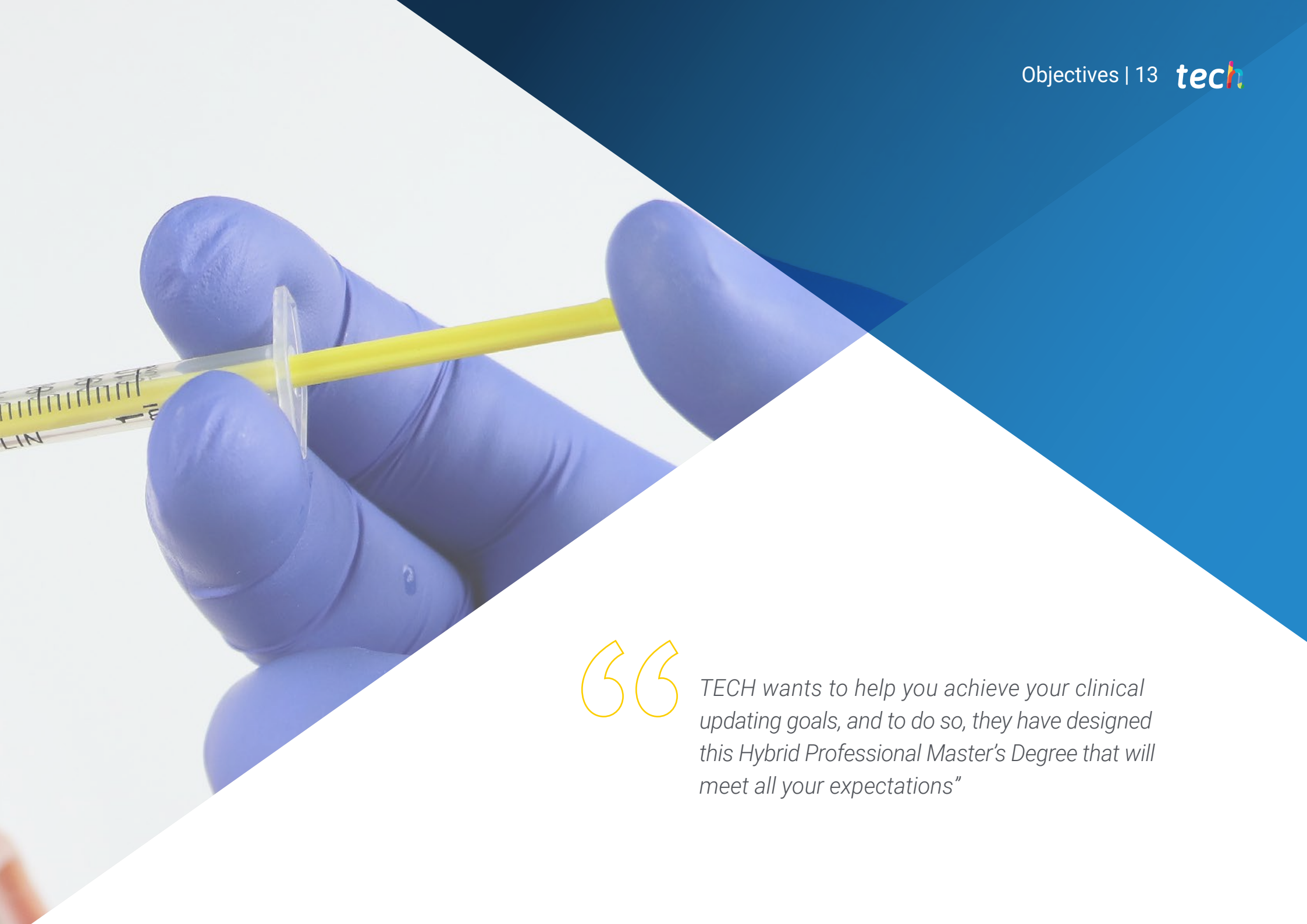


*You will have full practical immersion  
at the center of your choice”*

# 03 Objectives

This program aims to provide the professional who completes it with all the theoretical and practical tools necessary to become an expert in hair transplants. This qualification offers everything essential to achieve this goal, from innovative and comprehensive content, to expert faculty , and practical experience at a leading center in this field, ensuring the student's learning is comprehensive and covers multiple perspectives. This way, TECH outlines the following general and specific objectives.





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*TECH wants to help you achieve your clinical updating goals, and to do so, they have designed this Hybrid Professional Master's Degree that will meet all your expectations”*



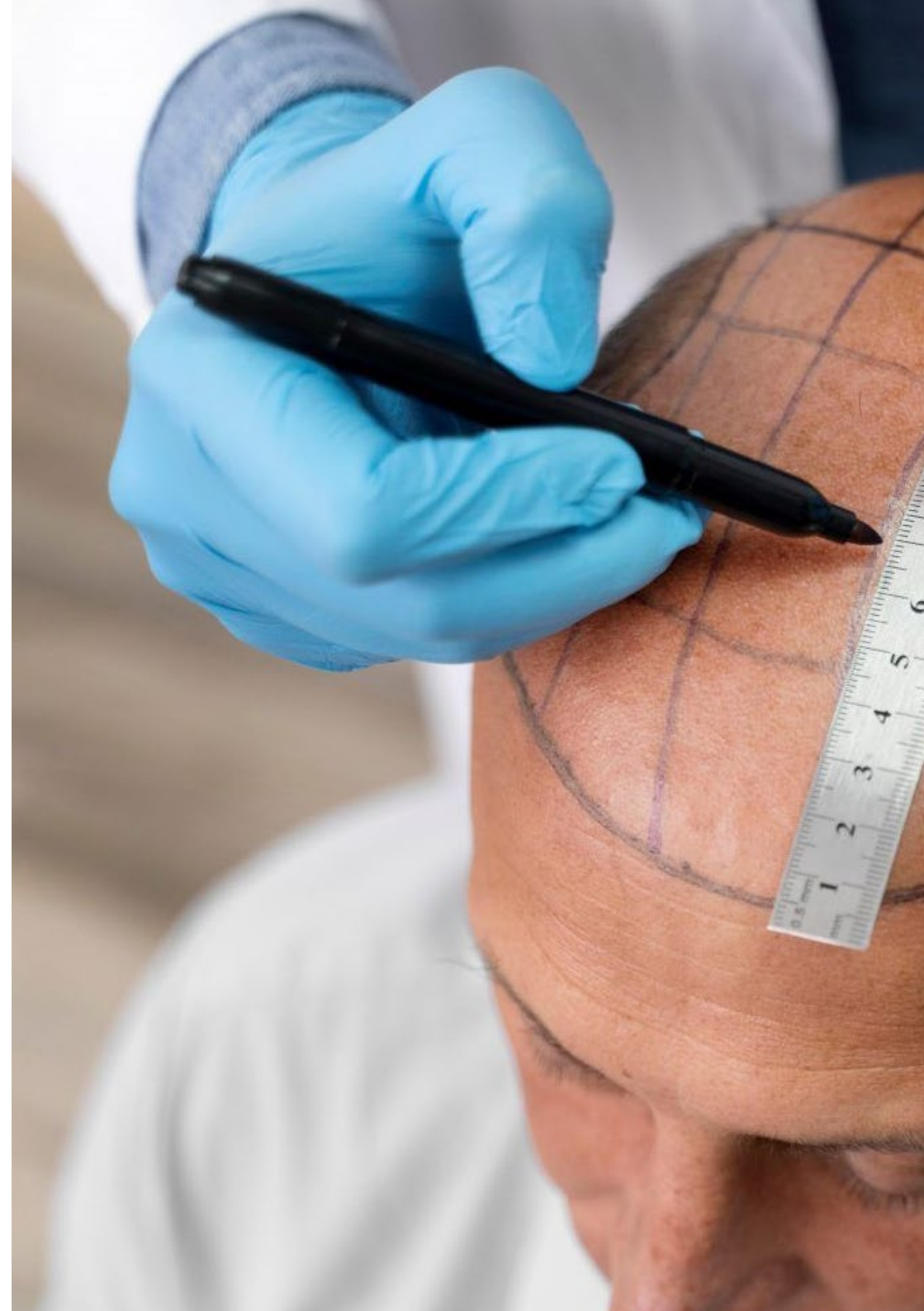
### General Objective

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- The general objective of the Hybrid Professional Master's Degree in Hair Transplantation is to facilitate the application of its techniques and content in the practical and professional environment of each student, with a strong emphasis on anything that can benefit the professional in their workplace, so that everything learned has a practical application

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*You will be able to work in a 100% real environment, thanks to this program from TECH, in which you will always be accompanied by a highly prestigious specialist in hair transplants to ensure your immediate update on the subject”*





## Specific Objectives

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### Module 1. Hair Anatomy and Physiology

- ◆ Review and expand knowledge of anatomy and hair physiology, to know in depth both the hair and the dermis and to be able to correctly perform both surgical interventions and the treatment of their pathologies
- ◆ Acquire in-depth knowledge of the physiology of the skin and the pilosebaceous follicle
- ◆ Conduct a study of hair growth cycles
- ◆ Study of keratin and keratinization, as well as melanin and melanogenesis of the hair
- ◆ Study the embryology and anatomy of the hair follicle, the anatomy of the sebaceous gland, the apocrine gland and the erector muscle, as well as the vascularization and innervation of these
- ◆ Study the layers of the scalp, and study the hair, its composition, properties, and growth
- ◆ Gain in-depth knowledge on how to carry out a thorough clinical history, as well as to evaluate in detail both the donor area, which must be appropriate, and the recipient area. Both are key steps for achieving good capillary diagnosis
- ◆ Learn how to perform a proper photographic study for the clinical history
- ◆ Learn to observe a photograph with the microcamera, distinguish the different follicular patterns, perifollicular, intrafollicular, and differences in thickness and texture in the hair as a basis for establishing a correct hair diagnosis, and determine the treatment to be performed based on this
- ◆ Review the history of hair transplantation and medicine over the years, and the evolution and changes in this branch of aesthetic medicine, both in diagnosis and surgical techniques

## Module 2. Hair Disorders

- ♦ Delve into trichological knowledge in relation to the different hair diseases
- ♦ Address the main pathologies of the scalp and their treatment, we will deal in depth with all types of alopecia and dysplasia that exist, their differential characteristics, etiology, development, diagnosis and main treatments currently
- ♦ Classify capillary diseases according to different processes, depending on their resolution, into easily resolvable, potentially resolvable, and difficult to resolve
- ♦ Differentiate between scarring and non-scarring alopecia, and adjusting treatment accordingly
- ♦ Classify primary alopecias, in which the primary lesion produces inflammation of the hair follicle, and secondary alopecia, in which the damage occurs in the entire dermis, including the follicle
- ♦ Classify them into congenital and acquired
- ♦ Another classification of scarring alopecia is according to the North American Hair Research Society (NAHRS) depending on the type of microscopic infiltrate

## Module 3. Androgenetic Alopecia

- ♦ Acquire a solid base to solve our patients' problems. It is the most common form of androgenetic alopecia in men and women
- ♦ Study the changes in the hair cycle in androgenic alopecia, the genetic and hormonal factors involved in it, the role of androgens in this pathology, testosterone, dihydrotestosterone and 5-alpha-reductase as responsible for this type of alopecia
- ♦ Study the clinical characteristics
- ♦ Classification of androgenetic alopecia (Norwood-Hamilton)
- ♦ Study the diagnosis of AGA: clinical study with a miniaturized hair pattern, laboratory tests and genetic study
- ♦ Perform a differential diagnosis, with greater importance in women, generally supported by the following characteristics: focal pattern baldness with miniaturized hairs, gradual onset with progression, thinning, onset after puberty, and negative traction test

- ♦ Know cosmetic, dietary, topical, local, and systemic treatment
- ♦ Review specific treatment techniques: hair mesotherapy and biological therapies with platelet-rich plasma and stem cells

## Module 4. Physician Attendance/Consultation and Surgery

- ♦ Establish the necessary medical knowledge foundation, from the patient's first visit for a trichological study, to visagism concepts applied to hair esthetics, and solve the most common problems that may arise in a hair micrografting intervention
- ♦ Establish the guidelines to be followed in the first medical consultation or diagnostic consultation and in the following consultations, mainly in the consultation prior to surgery, with emphasis on medical documentation and consents
- ♦ Study of the different devices for hair transplantation
- ♦ Review the team collaborating with the surgeon, the nursing team and the hair technicians, describing their roles throughout the hair process
- ♦ Learn the post-surgical treatments for optimal results and the different post-surgical complications and their solutions
- ♦ Review the different local anesthetics, their pharmacokinetic characteristics and maximum dose, and the different loco-regional blocks at facial and peripheral level will also be discussed
- ♦ Address how to solve emergencies that may arise in daily practice in Capillary Medicine consultation, as well as during surgery, and how to act in each case and the different corrective treatments

## Module 5. Cosmetic Treatments/Hair Cosmetics

- ♦ Address the main medical-aesthetic treatments that exist today, as well as different techniques and/or treatments in constant progress, such as hair mesotherapy, low-power laser treatment, PRP and stem cell treatments, hair cosmetology and oral supplementation
- ♦ Learn alternatives to surgical intervention when surgery becomes impossible or not recommended with techniques such as micropigmentation and hair replacement systems or hair prostheses



### **Module 6. Medical/Pharmacological Treatments and Research in Trichology and New Treatment Alternatives**

- ♦ Review the most common pharmacological treatments (minoxidil, finasteride, dutasteride), treatments for alopecia Areata with dexamethasone minipulse therapy and anti-JAK drugs, treatment with antiandrogens for frontal fibrosing alopecia, treatment with estrogens
- ♦ Review new treatments or alternative treatments such as platelet rich plasma with its indications and current legislation, low frequency laser or LLLI
- ♦ Show the most up-to-date lines of research and development to solve unsolved problems and the advances in cloning and pharmacology to solve patients hair-related problems

### **Module 7. Hair Transplantation with the FUSS Technique**

- ♦ Define this type of surgical technique
- ♦ Explain the advantages and disadvantages of this procedure
- ♦ Address the planning and design of a transplant with this surgical technique, the phases of hair transplantation, and factors that determine the survival of the grafts, as well as the devices and material required to perform a transplant with the FUSS technique and the entire technique of this type of hair transplant will be discussed in depth
- ♦ Discuss indications and contraindications, the FUSS technique in women, the surgical plan, the marking of the strip and its extraction, slivering, cutting of the follicular units, incisions and implantation
- ♦ Review the specific postoperative period following this technique, including possible complications during and after the extraction and in the postoperative period following the procedure

### **Module 8. Hair Transplantation with the FUE Technique**

- ♦ Acquire the knowledge required to perform the FUE technique. To have proper anatomical knowledge for administering anesthesia in both the donor and recipient areas
- ♦ Discuss the planning and design of a transplant, phases of hair transplantation and factors that condition the survival of grafts, the devices and material necessary to perform a transplant and the FUE and NON-SHAVE hair transplant techniques will be discussed in depth

- ♦ Focus on how to identify and solve the possible intraoperative complications in the FUE technique
- ♦ Handle the instruments used in the different phases of the surgical procedure
- ♦ An in-depth study of the main indications and contraindications of the FUE technique
- ♦ Take a closer look at and solve possible complications during the postoperative period

### **Module 9. Effluvia**

- ♦ In-depth knowledge of non-scarring alopecia: effluviums
- ♦ Diagnose telogen and anagen effluvia, both chronic and acute
- ♦ Learn how to apply the knowledge acquired in diagnostic techniques, to make differential diagnoses with other alopecias
- ♦ Apply different medical treatments for each of the types of effluvium and indicate a management algorithm for patients with diffuse capillary leakage, based on a targeted and specific clinical history
- ♦ Study the different apparatus for trichological diagnosis of the pathology studied

### **Module 10. Legal, Economic, and Marketing Aspects**

- ♦ Learn how to set up a trichology and surgery unit
- ♦ Learn how to implement this topic in marketing and audiovisual media
- ♦ Be aware of the essential aspects for our business to function
- ♦ Learn how to properly take photographs before and after treatments in a structured and reproducible manner
- ♦ Learn about communication
- ♦ Know the legal aspects of our profession

# 04 Skills

After successfully completing the relevant assessments of this Hybrid Professional Master's Degree in Hair Transplantation, medical professionals will have gained critical professional competencies that will help them advance in their careers. This is due to the significant opportunities provided by this field and the increased demand for experts from patients.





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*This program has been designed so that you can apply all hair transplant techniques in your own work environment”*



## General Skills

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- At the end of the training, the student will have the ability to treat patients which will allow them to become an experienced professional in this field
- Diagnose, plan, and carry out the most basic to the most complex treatments in the field of Capillary Medicine

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*All the skills you need to be a reference in Hair Transplantation”*





## Specific Skills

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- ♦ Classify the different types of alopecia
- ♦ Describe the anatomy and physiology of the hair and scalp, and the differences and similarities according to gender
- ♦ Analyze the main etiopathogenic mechanisms of capillary abnormalities, as well as how to diagnose and treat them
- ♦ Recognize the anatomy, physiology, pathophysiology, and etiopathogenesis of hair and scalp disorders
- ♦ Explain the phases of hair growth and regeneration
- ♦ Monitor the progression of hair diseases
- ♦ Diagnose the main clinical conditions related to hair
- ♦ Apply nutritional aspects and micro and macronutrients in relation to capillary disorders
- ♦ Identify the different capillary disorders
- ♦ Handle the different diagnostic equipment
- ♦ Comprehensively define and analyze the structures and functions of each area and open the doors to new treatments
- ♦ Analyze any changes for monitoring the progression of hair diseases
- ♦ Identify the possible complications of hair transplantation
- ♦ Use different types of cosmetics to treat certain hair disorders effectively, highlighting the knowledge of the most commonly used active ingredients and their mechanisms of action
- ♦ Select patients appropriately
- ♦ Perform pre-surgery preparation
- ♦ Correctly prescribe and monitor post-surgical treatment, adapted to the usual progression and tailored to each patient's individual needs
- ♦ Present the different surgical alternatives adapted to the existing pathology
- ♦ Prevent and treat possible adverse effects of drugs and their treatment
- ♦ Use the different types of alternative treatments to surgery and, in many cases, pre- and post-surgery
- ♦ Provide current information on the use of low frequency laser in alopecia, differentiating it from LED therapy
- ♦ Select the appropriate technology to allow us to adapt to the needs of each patient, highlighting a global vision of treatment strategies, indications, contraindications and possible adverse effects of such treatments
- ♦ Know the types of pharmacological treatments, the precise knowledge of the mechanisms of action of each one of them and their indications and contraindications
- ♦ Manage the therapeutic application of the factors involved in biological processes
- ♦ Use mesotherapy and the drugs applied in it, creating treatment protocols to guarantee that it is safe
- ♦ Perform platelet-rich plasma (PRP) treatments and current legislation for such treatments
- ♦ Learn how to perform adequate clinical diagnoses supported by the best technologies
- ♦ Apply the importance of communication in the aesthetic-capillary medicine sector
- ♦ Design a business communication plan in the field of health and manage the characteristics of social networks in the creation of a hair clinic
- ♦ Carry out marketing campaigns

05

# Course Management

The instructors of this Hybrid Professional Master's Degree are experts in Hair Transplantation and hair medicine who will impart their top-notch knowledge to the students with the goal of transforming them into highly qualified professionals in the field. This will prepare them to practice their profession once they complete the theoretical education and the corresponding Internship Program.





“

*The best possible faculty to help you  
learn all the intricacies of hair surgery”*

## Management



### Dr. Pérez Castaño, Cristina Gema

- Medical Director at Aderans Bosley
- Emergency Physician at SAMUR - Civil Protection
- Hair Surgeon in QMED
- Associate Doctor at HEALix
- Attending Physician at Vithas La Milagrosa Hospital
- Hair Surgeon at MAN Medical Institute
- Hair Surgeon at MC360 Capillary Clinic
- Attending Physician in Emergency Medicine at Sanitas
- Degree in Medicine from the Complutense University of Madrid
- Diploma in Nursing from the Autonomous University of Madrid
- Specialist in Intensive Medicine at the 12 de Octubre Hospital
- Master's Degree in Aesthetic Medicine from Rey Juan Carlos University
- Expert in Micro Hair Implants from UDIMA University



## Professors

### Dr. Ángel Navarro, Rosa María

- ♦ Medical Specialist in Hair Micrografting
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid
- ♦ Specialist in Allergy and Immunopathology at the University of Buenos Aires
- ♦ Specialist in Public Health from UBA
- ♦ Specialist in Micro Hair Transplants from UDIMA University

### Mr. Santos Gil, Antonio

- ♦ Specialist in Hair Diagnosis and Treatment
- ♦ Second-grade specialist in Hairdressing and Aesthetics
- ♦ Characterization specialist in Opera and Theater
- ♦ Trainer in the field of hair replacement, with a special focus on Oncology patients
- ♦ Hair treatment trainer at TICAP Clinics and specialist in Visagism and trichological diagnosis at MC360 Clinics

### Dr. Alique García, Sergio

- ♦ Medical Specialist in Medical and - Surgical Dermatology and Venereology
- ♦ Dermatologist at Online Medicus
- ♦ Dermatologist at SESCAM
- ♦ Dermatologist at the Spanish Academy of Dermatology and Venereology
- ♦ Degree in Medicine and Surgery from the University of Castilla La Mancha
- ♦ Master's Degree in Aesthetic Medicine, Nutrition and Anti-Aging by the Distance University of Madrid
- ♦ Master's Degree in Trichology and Hair Transplants, Universidad a Distancia de Madrid
- ♦ Expert in Aesthetic Dermatology, Trichology and Dermatological Surgery

### Mr. Macías Calderón, Francisco José

- ♦ Hair Technician Expert in the FUE Method
- ♦ *Freelance* Hair Technician Expert in the FUE technique
- ♦ Pediatric Physiotherapist at CAIT ASPAS
- ♦ Pediatric Physiotherapist at LASSAN
- ♦ Diploma in Physiotherapy from UEX
- ♦ Higher Technician in Physical Activities and Sports

### Dr. Manzano Martín, Isabel

- ♦ Hair Surgeon in TRICAP
- ♦ Aesthetic Physician and Hair Surgeon
- ♦ Specialist Physician in the General and Digestive Surgery Department at Juan Ramón Jiménez Hospital
- ♦ Master's Degree in Senology from the University of Barcelona
- ♦ Master's Degree in Clinical Trials from the University of Seville
- ♦ Master's Degree in Trichology and Micro Hair Transplants from UDIMA
- ♦ Master's Degree in Aesthetic Medicine and Anti-aging from UDIMA
- ♦ Master's Degree in Aesthetic Medicine and Anti-aging from UDIMA
- ♦ Graduate in Medicine at the University of Extremadura
- ♦ Degree in Pharmacy from the University of Seville

# 06

## Educational Plan

This program features an advanced curriculum that includes the latest advancements in Hair Transplantation. This way, professionals can dynamically update their knowledge through this qualification, which will provide them with everything necessary to incorporate cutting-edge techniques into their daily work in this type of surgical procedure. All of this is delivered with a predominantly practical approach, which includes real clinical cases and a range of high-level educational resources.



“

*Stay up-to-date in Hair Transplantation with this practical-oriented program through which you will acquire the most advanced surgical techniques in this field”*

## Module 1. Hair Anatomy and Physiology

- 1.1. Normal Hair Follicle: Structure
  - 1.1.1. Parts of the Hair Follicle
    - 1.1.1.1. Upper Part:
      - 1.1.1.1.1. Follicular Ostium
      - 1.1.1.1.2. Infundibulum
      - 1.1.1.1.3. Isthmus
    - 1.1.1.2. Lower Part
      - 1.1.1.2.1. Erector Muscle Insertion
      - 1.1.1.2.2. Hair Bulb: Melanocytes and Matrix Cells
      - 1.1.1.2.3. Sebaceous Glands
  - 1.1.2. Histology of the Hair Follicle
  - 1.1.3. Mature Hair Follicle
    - 1.1.3.1. Hair Follicle: Medulla, Cortex and Cuticle
    - 1.1.3.2. Inner Root Sheath: Cuticle, Huxley's Layer and Henle's Layer
    - 1.1.3.3. Outer Root Sheath
    - 1.1.3.4. Vitreous Layer
    - 1.1.3.5. Outer Fibrous Layer
  - 1.1.4. Cellular Composition of the Hair Follicle:
    - 1.1.4.1. Stem Cells
    - 1.1.4.2. Keratinocytes
    - 1.1.4.3. Melanocytes
    - 1.1.4.4. Neurons
    - 1.1.4.5. Blood Vessels
    - 1.1.4.6. Mastocytic Cell Precursor Derivatives
    - 1.1.4.7. Immune Cells
    - 1.1.4.8. Neuronal Stem Cells
- 1.2. Histopathological Signs of Non-Scarring Alopecias
  - 1.2.1. Androgenetic Alopecia
    - 1.2.1.1. Hair Follicle Miniaturization
    - 1.2.1.2. Sebaceous Pseudohyperplasia
  - 1.2.2. Telogen Effluvium:
    - 1.2.2.1. Predominance of Hair Follicles in Telogen Phase
    - 1.2.2.2. Absence of Significant Histopathological Changes
  - 1.2.3. Alopecia Areata
    - 1.2.3.1. Peri and Intrabulbar Lymphocytic Infiltrate (Honeycomb Hyperpigmentation)
    - 1.2.3.2. Several Follicles of the Biopsy in the Same Evolutionary Phase
    - 1.2.3.3. Reversal of the Anagen-Telogen Ratio
  - 1.2.4. Syphilitic Alopecia
    - 1.2.4.1. Abundance of Plasma Cells in the Inflammatory Infiltrate
    - 1.2.4.2. Presence of Treponema Pallidum with HI stains
  - 1.2.5. Trichotillomania
    - 1.2.5.1. Absence of Peribulbar Inflammatory Infiltrate
    - 1.2.5.2. Trichomalacia
    - 1.2.5.3. Incontinentia Pigmenti
    - 1.2.5.4. Intra and Perifollicular Hemorrhages
  - 1.2.6. Traction Alopecia
    - 1.2.6.1. Similar to Trichotillomania
    - 1.2.6.2. Diminution of Terminal Hair Follicles
- 1.3. Anatomy of the Scalp
  - 1.3.1. Scalp Layers (SCALP):
    - 1.3.1.1. Skin
      - 1.3.1.1.1. Epidermis and Dermis
        - 1.3.1.1.1.1. arrector pilifibre muscles smooth muscle fibers innervation of the sympathetic nervous system. Inserted into the hair follicle goose bumps
      - 1.3.1.1.2. Thick. Between 3mm (Vertex) to 8mm (Occipital)
      - 1.3.1.1.3. Contains:
        - 1.3.1.1.3.1. Hair Follicles: Rich Innervation
        - 1.3.1.1.3.2. Sebaceous Glands
        - 1.3.1.1.3.3. Sweat Glands
    - 1.3.1.2. Subcutaneous Tissue
      - 1.3.1.2.1. Fat and Fibrous Septa
      - 1.3.1.2.2. Arteries, Veins, Lymphatic Vessels, and Nerves
    - 1.3.1.3. Aponeurosis
      - 1.3.1.3.1. Musculo-Aponeurotic Scalp Layer
      - 1.3.1.3.2. Epicranial Muscle
      - 1.3.1.3.3. Traction Resistance

- 1.3.1.4. Lax Subcutaneous Tissue
  - 1.3.1.4.1. Thin
  - 1.3.1.4.2. Avascular/Emitting Veins
  - 1.3.1.4.3. Infections
  - 1.3.1.5. Pericranium/Periosteum
- 1.3.2. Skin Vascularisation:
  - 1.3.2.1. Deep Plexus: Vascular Trunks and Superficial Plexus
  - 1.3.2.2. Subcutaneous Plexus, Cutaneous Plexus, Papillary Plexus, and Capillary Loop
- 1.4. Types of Hair
  - 1.4.1. Lanugo
    - 1.4.1.1. Fine
    - 1.4.1.2. Non-Vascular
  - 1.4.2. Vellus
    - 1.4.2.1. Diameter and Length (30u/<1cm)
    - 1.4.2.2. Depigmented and Non-Medullated
    - 1.4.2.3. Vellus Hairs
  - 1.4.3. Terminal Hair
    - 1.4.3.1. Diameter and Length (60u/>1cm)
    - 1.4.3.2. Pigmented and Medullated
  - 1.4.4. According to Area of Growth
    - 1.4.4.1. Asexual Hair
    - 1.4.4.2. Ambosexual Hair
    - 1.4.4.3. Sexual Hair
- 1.5. Chemical Composition of Hair
  - 1.5.1. Protein (28%)
    - 1.5.1.1. Keratin: Hard and Soft
    - 1.5.1.2. Aminoacids: Cysteine, Histidine, Methionine, and Tryptophan
  - 1.5.2. Lipids (2%)
  - 1.5.3. Trace Elements
  - 1.5.4. Water (70%)
  - 1.5.5. Pigments
  - 1.5.6. Others
- 1.6. Properties of Hair
  - 1.6.1. Permeability: Ability to Absorb Liquids
    - 1.6.1.1. Changes in Length, Diameter, and Shape
  - 1.6.2. Resistance: Ability to Withstand Traction
    - 1.6.2.1. Determined by Its Structure and Chemical Composition
    - 1.6.2.2. Relation to Sulfur
- 1.7. Hair Phases
  - 1.7.1. Anagen Phase
    - 1.7.1.1. 4-6 years
    - 1.7.1.2. Birth and Growth
  - 1.7.2. Catagen Phase
    - 1.7.2.1. 2-3 weeks
    - 1.7.2.2. 1-2% of Hairs
    - 1.7.2.3. Anabolic to Catabolic Transition
  - 1.7.3. Telogen Phase
    - 1.7.3.1. Resting Phase and Hair Shedding
    - 1.7.3.2. 3- 4- months
    - 1.7.3.3. 4-24% of Hairs
    - 1.7.3.4. Increased In: Postpartum (Physiological) and (Pathological) such as Stress and Fever
- 1.8. Follicular Unit
  - 1.8.1. Definition
  - 1.8.2. Follicular Unit Density (UF/cm<sup>2</sup>)
  - 1.8.3. Hair Density (Hairs/cm<sup>2</sup>)
  - 1.8.4. Differences between Races
    - 1.8.4.1. Asian vs. Black vs. White
- 1.9. History of Hair Surgery
  - 1.9.1. Early Beginnings. The Role of Japan in Hair Surgery
    - 1.9.1.1. Eyebrows and Eyelashes
  - 1.9.2. Beginning of its Development and Practice
  - 1.9.3. The First Hair Transplant
  - 1.9.4. The Evolution of Transplantation
    - 1.9.4.1. The 1960s to the 1970s
    - 1.9.4.2. The 1980s
    - 1.9.4.3. 1984: Dr. John Headington: "Follicular Unit Transplantation"

- 1.9.5. Evolution of Surgical Techniques
  - 1.9.5.1. Punch Grafts, Mini Grafts, Micro Grafts
- 1.9.6. Organisation
  - 1.9.6.1. Scientific Societies
  - 1.9.6.2. Specific Scientific Journals
  - 1.9.6.3. Specific Textbooks

## Module 2. Hair Disorders

- 2.1. Scalp Pathologies
    - 2.1.1. Dermatitis
      - 2.1.1.1. Dermatoses Affecting the Scalp
        - 2.1.1.1.1. Seborrheic Dermatitis
          - 2.1.1.1.1.1. Description and Origin
          - 2.1.1.1.1.2. Phases of Seborrheic Dermatitis
        - 2.1.1.1.2. Contact Dermatitis
          - 2.1.1.1.2.1. Contact Irritant
            - 2.1.1.1.2.1.1. Chemical Contact
            - 2.1.1.1.2.1.2. Physical Contact (Allergens)
          - 2.1.1.1.2.2. Photocontact or Photosensitive
            - 2.1.1.1.2.2.1. Phototoxic
            - 2.1.1.1.2.2.2. Photoallergic
        - 2.1.1.1.2.2. Photoallergic
      - 2.1.1.2. Contact Dermatitis
        - 2.1.1.2.1. Contact Irritant
          - 2.1.1.2.1.1. Chemical Contact
          - 2.1.1.2.1.2. Physical Contact (Allergens)
        - 2.1.1.2.2. Photocontact or Photosensitive
          - 2.1.1.2.2.1. Phototoxic
          - 2.1.1.2.2.2. Photoallergic
      - 2.1.1.3. Erosive-Pustular Dermatitis
    - 2.1.2. Pityriasis
      - 2.1.2.1. Pityriasis
      - 2.1.2.2. Cosmetic Pityriasis
      - 2.1.2.3. Pityriasis Simplex Capitis
      - 2.1.2.4. Steatoid Pityriasis
    - 2.1.3. Scalp Infections and Infestations
      - 2.1.3.1. Superficial Folliculitis (Ostiofolliculitis)
      - 2.1.3.2. Deep Folliculitis (Furunculosis and Carbuncles)
        - 2.1.3.2.1. Folliculitis Decalvans
      - 2.1.3.3. Keloid Folliculitis (Keloid Acne)
      - 2.1.3.4. Candidiasis Folliculitis
  - 2.1.4. Tinea Capitis
    - 2.1.4.1. Non-Inflammatory Tinea (Anthropophilic Dermatophytes)
    - 2.1.4.2. Inflammatory Tinea (By Zoophoric Dermatophytes)
  - 2.1.5. Seborrheic Dermatoses, Description and Types
    - 2.1.5.1. Real Seborrhea
    - 2.1.5.2. Two-Layer Seborrhea
    - 2.1.5.3. Apparent Seborrhea
    - 2.1.5.4. Four-Layer Seborrhea
    - 2.1.5.5. Lichen Planopilaris
    - 2.1.5.6. Pediculosis
    - 2.1.5.7. Capillary Psoriasis
      - 2.1.5.7.1. Exclusive Capillary Involvement: Seborrheic Psoriasis
      - 2.1.5.7.2. Plaques: Types
        - 2.1.5.7.2.1. Isolated
        - 2.1.5.7.2.2. Dispersed
        - 2.1.5.7.2.3. Scarce
- 2.2. Bromhidrosis
  - 2.2.1. Definition
  - 2.2.2. Causes
    - 2.2.2.1. Apocrine Sweating
    - 2.2.2.2. Eccrine Sweating
  - 2.2.3. Trigger Foods
    - 2.2.3.1. Other Triggers
  - 2.2.4. Symptoms
  - 2.2.5. Diagnosis
  - 2.2.6. Treatment
    - 2.2.6.1. Botox
    - 2.2.6.2. Liposuction
    - 2.2.6.3. Surgery
    - 2.2.6.4. Home Remedies
  - 2.2.7. Complications
    - 2.2.7.1. Trichomycosis
    - 2.2.7.2. Erythrasma

- 2.2.7.3. Intertrigo
  - 2.2.7.4. Diabetes Mellitus Type II
  - 2.2.7.5. Obesity
  - 2.3. Congenital Alopecia
    - 2.3.1. Universal
    - 2.3.2. Hereditary Hypotrichosis: Marie-Unna Type
    - 2.3.3. Unclassified Types
      - 2.3.3.1. Localized
        - 2.3.3.1.1. Aplasia
        - 2.3.3.1.2. Skin
      - 2.3.3.2. Triangular Alopecia
      - 2.3.3.3. Congenital Anonychia
    - 2.3.4. Ectodermal Dysplasias
      - 2.3.4.1. Hydrotic
      - 2.3.4.2. Anhydrotic
    - 2.3.5. Syndromes
      - 2.3.5.1. Autosomal Recessive Conditions
        - 2.3.5.1.1. Cockayne Syndrome
        - 2.3.5.1.2. Werner Syndrome
        - 2.3.5.1.3. Progeria
        - 2.3.5.1.4. Rothmund-Thomson Syndrome
        - 2.3.5.1.5. Seckel Syndrome
        - 2.3.5.1.6. Menkes Syndrome
        - 2.3.5.1.7. Marinesco Syndrome
        - 2.3.5.1.8. Conradi Syndrome
        - 2.3.5.1.9. Dyskeratosis Congenita
        - 2.3.5.1.10. Cartilage-Hair Hypoplasia
        - 2.3.5.1.11. Acrodermatitis Enteropathica
        - 2.3.5.1.12. Syndromes: Tricho-Rhino-Phalangeal
        - 2.3.5.1.13. Homocystinuria
        - 2.3.5.1.14. Lamellar Ichthyosis
        - 2.3.5.1.15. Hartnut Disease
        - 2.3.5.1.16. Citrulinemia
        - 2.3.5.1.17. Tricorhinophalangeal Syndrome
  - 2.3.6. Autosomal Dominant Conditions
    - 2.3.6.1. Pachyonychia Congenita
    - 2.3.6.2. Hallermann-Streiff Syndrome
    - 2.3.6.3. Oculo-Dento-Digital Syndrome
    - 2.3.6.4. Treacher-Collins Syndrome
    - 2.3.6.5. Popliteal Membrane Syndrome
  - 2.3.7. AX-Linked Dominant Disorders
    - 2.3.7.1. Digital Orofacial Syndrome
    - 2.3.7.2. Incontinentia Pigmenti
    - 2.3.7.3. Focal Dermal Hypoplasia
  - 2.3.8. AX-Linked Recessive Disorders
    - 2.3.8.1. Keratosis Follicularis Spinulosa Decalvans with Ophiasis
  - 2.3.9. Chromosomal Aberrations
    - 2.3.9.1. Down Syndrome - Trisomy 21
    - 2.3.9.2. Trisomy A
- 2.4. Scarring Alopecia
  - 2.4.1. Definition
  - 2.4.2. Types:
    - 2.4.2.1. Caused by the Body Itself
      - 2.4.2.1.1. Genetic Factors
    - 2.4.2.2. Abnormalities
      - 2.4.2.2.1. Folliculitis Decalvans
      - 2.4.2.2.2. Keloid Acne
      - 2.4.2.2.3. Lupus Erythematosus
      - 2.4.2.2.4. Pustular Dermatitis
      - 2.4.2.2.5. Lichen Planus
      - 2.4.2.2.6. Frontal Fibrosing Alopecia (F.F.A.)
      - 2.4.2.2.7. Some Types of General Alopecia Areata
    - 2.4.2.3. Acquired
      - 2.4.2.3.1. Radiotherapy
      - 2.4.2.3.2. Burns
      - 2.4.2.3.3. Surgical

- 2.5. Other Classifications of Scarring Alopecia
  - 2.5.1. Lymphocytic Infiltrate
    - 2.5.1.1. Chronic Cutaneous Lupus Erythematosus
    - 2.5.1.2. Follicular Lichen Planus
    - 2.5.1.3. Pseudopelade of Brocq
    - 2.5.1.4. Central Centrifugal Cicatricial Alopecia
  - 2.5.2. Neutrophilic Infiltrate
    - 2.5.2.1. Folliculitis Decalvans
    - 2.5.2.2. Dissecting Cellulitis/Folliculitis
  - 2.5.3. Mixed Infiltrate
    - 2.5.3.1. Keloid Acne of the Nape
    - 2.5.3.2. Varioliform Necrotic Acne
    - 2.5.3.3. Erosive Pustular Dermatitis
  - 2.5.4. Non-Specific Infiltrate:
    - 2.5.4.1. Scarring Alopecia in Final Stages
- 2.6. Non-Scarring Alopecia
  - 2.6.1. Definition
  - 2.6.2. Types
    - 2.6.2.1. Androgenetic Alopecia
    - 2.6.2.2. Traumatic or External Agent Alopecia
      - 2.6.2.2.1. Trichotillomania
      - 2.6.2.2.2. Caused by Chemical Misuse
      - 2.6.2.2.3. Traction Alopecia
    - 2.6.2.3. Alopecia Areata
      - 2.6.2.3.1. Common Areata
      - 2.6.2.3.2. General Areata
    - 2.6.2.4. Drug and Pharmaceutical Related Alopecia
      - 2.6.2.4.1. Vitamin A
      - 2.6.2.4.2. Anticoagulants
      - 2.6.2.4.3. Mercury
      - 2.6.2.4.4. Boric Acid
      - 2.6.2.4.5. Beta-Blockers
  - 2.6.2.5. Syphilitic Alopecia
    - 2.6.2.5.1. Description
    - 2.6.2.5.2. Features
  - 2.6.2.6. Alopecia Caused by Systemic Diseases
    - 2.6.2.6.1. Infectious
    - 2.6.2.6.2. Endocrine
    - 2.6.2.6.3. Nutritional Deficiency
  - 2.6.2.7. Effluvia
  - 2.6.3. Histopathological Signs
    - 2.6.3.1. Androgenetic Alopecia
      - 2.6.3.1.1. Hair Follicle Miniaturization
      - 2.6.3.1.2. Sebaceous Pseudohyperplasia
    - 2.6.3.2. Telogen Effluvium
      - 2.6.3.2.1. Predominance of Hair Follicles in Telogen Phase
      - 2.6.3.2.2. Absence of Significant Histopathological Changes
    - 2.6.3.3. Alopecia Areata
      - 2.6.3.3.1. Peri and Intrabulbar Lymphocytic Infiltrate (Honeycomb Hyperpigmentation)
      - 2.6.3.3.2. Several Follicles of the Biopsy in the Same Evolutionary Phase
      - 2.6.3.3.3. Reversal of the Anagen-Telogen Ratio
    - 2.6.3.4. Syphilitic Alopecia
      - 2.6.3.4.1. Abundance of Plasma Cells in the Inflammatory Infiltrate
      - 2.6.3.4.2. Presence of Treponema Pallidum with HI stains
    - 2.6.3.5. Trichotillomania
      - 2.6.3.5.1. Absence of Peribulbar Inflammatory Infiltrate
      - 2.6.3.5.2. Trichomalacia
      - 2.6.3.5.3. Incontinentia Pigmenti
      - 2.6.3.5.4. Intra and Perifollicular Hemorrhages
    - 2.6.3.6. Traction Alopecia
      - 2.6.3.6.1. Similar to Trichotillomania
      - 2.6.3.6.2. Diminution of Terminal Hair Follicles



- 2.7. Hypertrichosis
  - 2.7.1. General
    - 2.7.1.1. Primary or Congenital
      - 2.7.1.1.1. Universal Hypertrichosis or Ambras Syndrome
      - 2.7.1.1.2. Congenital Hypertrichosis Lanuginosa
      - 2.7.1.1.3. Prepubertal Hypertrichosis
      - 2.7.1.1.4. Acquired Hypertrichosis Lanuginosa
    - 2.7.1.2. Secondary or Acquired
      - 2.7.1.2.1. Caused by Drugs or Medication
      - 2.7.1.2.2. Caused by Systemic Diseases
  - 2.7.2. Localized
- 2.8. Hirsutism
  - 2.8.1. Ovarian SAHA Syndrome
  - 2.8.2. Adrenal SAHA Syndrome
  - 2.8.3. SAHA Syndrome with Hyperprolactinemia
  - 2.8.4. SOP
  - 2.8.5. Hypophyseal Hirsutism
  - 2.8.6. Drug Use
  - 2.8.7. Liver Diseases
- 2.9. Hyperhidrosis
  - 2.9.1. Definition
  - 2.9.2. Diagnosis
  - 2.9.3. Causes
    - 2.9.3.1. Primary
    - 2.9.3.2. Diffuse
  - 2.9.4. Treatment
    - 2.9.4.1. Antiperspirants
    - 2.9.4.2. Anticholinergics
    - 2.9.4.3. Iontophoresis
    - 2.9.4.4. Botox
    - 2.9.4.5. Microwave Thermolysis

### Module 3. Androgenetic Alopecia

- 3.1. Features
  - 3.1.1. Evolutionary Development
  - 3.1.2. Physiological or Non-Physiological
  - 3.1.3. Mediated by Two Factors: Genetic and Androgenic
- 3.2. Evolution
  - 3.2.1. Hamilton for Boys
  - 3.2.2. Ludwig for Girls
- 3.3. Pathophysiology
  - 3.3.1. Genetic Receptors of the Male Hormone
  - 3.3.2. An Enzyme the 5alpha-Reductase
  - 3.3.3. DHT
- 3.4. Men
- 3.5. Women
  - 3.5.1. Physiology
  - 3.5.2. Hormonal
  - 3.5.3. Genetics
  - 3.5.4. Study of the Hypothalamic-Pituitary-Pituitary-Adrenal-Ovarian Axis
- 3.6. Consequences
- 3.7. AGA Study: Inclusion in Therapeutic Algorithm
  - 3.7.1. Clinical History with Oriented Anamnesis
  - 3.7.2. Macro and Micro Exploration with Use of Dermatoscopes and Micro Cameras
  - 3.7.3. Taking Photographs
  - 3.7.4. Traction Test
  - 3.7.5 Trichogram
    - 3.7.5.1. Optical Microscope: 20-50 Hairs
    - 3.7.5.2. Classification of Growth Phases: Anagen (85%) (1-2%) and Telogen (10-15%)
    - 3.7.5.3. Daily Hair Loss
    - 3.7.5.4. Features
  - 3.7.6. Wood Light
  - 3.7.7. Biopsy
  - 3.7.8. Targeted Analysis
  - 3.7.9. Diagnostic Approach
    - 3.7.9.1. Inclusion in Therapeutic Algorithm: Baldness Prevention

3.7.10. According to Resolution

3.7.10.1. Easily Resolved: Seasonal or Cyclic, Androgenetic (MAGA and FAGA), Menopausal and Senile. Effluvium

3.7.10.2. Potentially Resolvable: Pathogen-Mediated:

3.7.10.2.1. Psychogenic due to Stress

3.7.10.2.2. Traction and Trichotillomania

3.7.10.2.3. Deficiency (Dietary, Anemic, Vitamin Deficiency)

3.7.10.2.4. Chronic Effluvium

3.7.10.2.5. Hormonal/Androgenic

3.7.10.2.6. Thyrogenic

3.7.10.2.7. Immunogenic

3.7.10.2.8. Chemotherapy

3.7.10.2.9. Collagenosis

3.7.10.2.10. Areata

3.7.10.2.11. Infectious (Bacterial, Mycotic, Syphilis)

3.7.10.2.12. More Common in Women: Multi-Factorial

3.7.10.3. Difficult to Resolve

3.7.10.3.1. Congenital Cicatricial

3.7.10.3.2. FFA

3.7.10.3.3. Physical

3.7.10.3.4. Infections

3.7.10.3.5. Tumours

3.7.10.3.6. Dermatitis (Lupus, Liquen, Psoriasis, etc)

3.8. Treatment

3.8.1. Cosmetic

3.8.1.1. Cleaning and Hygiene: Appropriate Shampoo

3.8.1.2. Moisturizes, Nourishes and Repairs the Hair Shaft

3.8.1.3. Powders, Dyes, Volumizing Sprays and Special Hairstyles

3.8.1.4. Keratin Microfibers

3.8.1.5. Extensions and Prostheses

3.8.2. Diet: Balanced Diet

3.8.2.1. Aminoacids: L-Cysteine

3.8.2.2. Vitamins: B12, Biotin, Folic Acid, etc.

3.8.2.3. Trace Elements: Zinc, Fe, Se, etc.





- 3.8.3. Topical
  - 3.8.3.1. Non-Specific
    - 3.8.3.1.1. Shampoos: Antimycotics, Antipsoriatics, Keratolytics, etc.
    - 3.8.3.1.2. Creams, Lotions, Gels, etc.
    - 3.8.3.1.3. Corticosteroids, Antibiotics, Seboregulators, etc.
  - 3.8.3.2. Specific
    - 3.8.3.2.1. Lotions or Foams
    - 3.8.3.2.2. Spironolactone 3%
    - 3.8.3.2.3. Canrenone 2%
    - 3.8.3.2.4. Progesterone 0.025%
    - 3.8.3.2.5. 17-alpha-estradiol 0.025-0.05%
    - 3.8.3.2.6. Minoxidil 2-5%
    - 3.8.3.2.7. Ac. Retinoic Acid 0.025-0.05%
    - 3.8.3.2.8. Alpha-Tocopherol Nicotinate 5%
- 3.8.4. Local
  - 3.8.4.1. Drug Dermoinfiltration
    - 3.8.4.1.1. Roller
    - 3.8.4.1.2. Dermojet
    - 3.8.4.1.3. Hair Mesotherapy
    - 3.8.4.1.4. Carboxytherapy
  - 3.8.4.2. Micropigmentation
  - 3.8.4.3. Biological Therapies: PRP and Stem Cells
  - 3.8.4.4. Electrophysical Therapy
    - 3.8.4.4.1. Transportation and Ionization
    - 3.8.4.4.2. Infrared and Low Frequency Lasers
  - 3.8.4.5. Capillary Surgery
- 3.8.5. Systemic
  - 3.8.5.1. Underlying Pathology
    - 3.8.5.1.1. Anti-Fungals/Antibiotics, Thyroid, Anxiolytics, Corticosteroids
  - 3.8.5.2. Androgenetic (AGA) Factor
    - 3.8.5.2.1. Finasteride
    - 3.8.5.2.2. Dutasteride
    - 3.8.5.2.3. Oral Minoxidil

- 3.8.5.3. Androgenetic Factors: Antiandrogens
  - 3.8.5.3.1. Central: Cyproterone with/without Estradiol
  - 3.8.5.3.2. Peripheral: Spironolactone
  - 3.8.5.3.3. Adrenal: Prednisone and Deflazacort
- 3.9. Specific Techniques
  - 3.9.1. Mesoterapiacapillary
  - 3.9.2. Hair Micrografts
  - 3.9.3. Biological Therapies
    - 3.9.3.1. Plasma
    - 3.9.3.2. Stem Cells

## Module 4. Physician Attendance/Consultation and Surgery

- 4.1. Diagnostic Medical Consultation
  - 4.1.1. Exploration Methods
    - 4.1.1.1. Visual
    - 4.1.1.2. Optical Microscope
    - 4.1.1.3. Digital Microcameras
    - 4.1.1.4. Micrometer
    - 4.1.1.5. Wood Light
    - 4.1.1.6. Traction Tweezers
    - 4.1.1.7. Cigarette Paper
  - 4.1.2. Performing a Trichogram
  - 4.1.3. Dermographic Study
  - 4.1.4. Traction Test
  - 4.1.5. Wood Light
  - 4.1.6. Bipsy (If Required)
  - 4.1.7. Specific Blood Test
  - 4.1.8. Photography
- 4.2. Pre-Surgical Medical Consultation
  - 4.2.1. Medical History of Interest
  - 4.2.2. Photography
  - 4.2.3. Medical Consent
  - 4.2.4. Patient Expectations
  - 4.2.5. Surgical Plan
- 4.2.6. Pre-Op Instructions
- 4.2.7. Confirmation of Surgical Suitability
- 4.2.8. Post-Op Instructions
- 4.2.9. Surgical Alternatives and Other Treatments
- 4.3. Hair Transplant Devices
  - 4.3.1. Hair Grafting Tools for Extraction
    - 4.3.1.1. Punch or Circular Scalpel
    - 4.3.1.2. SAFE Systems
    - 4.3.1.3. RotoCore
    - 4.3.1.4. NeoGraft® Automated FUE and Implantation System
  - 4.3.2. Hair Grafting Tools for Implantation
    - 4.3.2.1. Implanter
      - 4.3.2.1.1. Advantages
      - 4.3.2.1.2. Disadvantages
    - 4.3.2.2. Making Incisions
      - 4.3.2.2.1. Advantages
      - 4.3.2.2.2. Disadvantages
  - 4.3.3. Instruments for Making Incisions:
    - 4.3.3.1. Sharp Points
    - 4.3.3.2. Needle
    - 4.3.3.3. Mini-blades
  - 4.3.4. Main Developments
    - 4.3.4.1. Extractor Machine with 0.7 mm Punch
    - 4.3.4.2. Special Blades for Cutting and Trimming Follicular Units with the Strip Technique
    - 4.3.4.3. High-Resolution Microscope
    - 4.3.4.4. 3-5x Magnifiers
    - 4.3.4.5. 0.8-1.3 Angled Blades for 0.8 and 1 mm Implants
    - 4.3.4.6. 0.8mm and 1mm Implanters
  - 4.3.5. Automated Extraction Systems - Hair Implantation
    - 4.3.5.1. Automatic: Extraction
    - 4.3.5.2. Semi-Automatic: Extraction and Implantation

- 4.4. Aesthetic Eyebrow Procedures
  - 4.4.1. Indications
  - 4.4.2. Diagnosis
  - 4.4.3. Etiology Treatment
  - 4.4.4. Most Common Procedures
    - 4.4.4.1. Recreating the Eyebrow Curve
    - 4.4.4.2. Hair Density Recovery
    - 4.4.4.3. Correcting Drooping Eyebrows
  - 4.4.5. Postoperative Care
  - 4.4.6. Anesthesia in Capillary Surgery
    - 4.4.6.1. Pre-Operative Study
    - 4.4.6.2. EKG and Chest X-Ray
    - 4.4.6.3. Pre-Medication
    - 4.4.6.4. Oral Sedation Model
      - 4.4.6.4.1. Stomach Protector
      - 4.4.6.4.2. Oral Antiemetic
      - 4.4.6.4.3. Oral Dormicum 7.5mg 1 Hour before Surgery
- 4.5. Intravenous Options
  - 4.5.1. Venous Route
  - 4.5.2. Antiemetics
  - 4.5.3. Administer Dormicum (2mg) and Fentanest (50 mg)
  - 4.5.4. Portable Pulse Oximetry without the Need for Cardiac Monitoring
  - 4.5.5. Annexate and Naloxone Availability
- 4.6. Types of Anesthetics
  - 4.6.1. Ester Type: Tetracaine, Chlorprocaine, Benzocaine, and Procaine
  - 4.6.2. Amide Type: Lidocaine, Mepivacaine, Prilocaine, Bupivacaine, Ropivacaine, and Etidocaine
- 4.7. Factors Influencing its Action
  - 4.7.1. Its Anesthetic Potency is Related to Liposolubility in a Directly Proportional Way
  - 4.7.2. Vasodilation Capability
  - 4.7.3. Plasma Protein Binding
  - 4.7.4. Addition of a Vasoconstrictor, such as Adrenaline or Phenylephrine, Increases the Effect
  - 4.7.5. Adrenaline Dosage Should Not Exceed 250ng in Adults
  - 4.7.6. Alkalinization Improves Diffusion and Promotes Latency
  - 4.7.7. Solution Heating Improves Blocking
  - 4.7.8. Complications
    - 4.7.8.1. Local Anesthesia Allergy
    - 4.7.8.2. Local Anesthesia Toxicity
- 4.8. Non-Medical Team
  - 4.8.1. Nurses
    - 4.8.1.1. Functions
      - 4.8.1.1.1. Assisting the Physician in Surgery
      - 4.8.1.1.2. Extracting Follicular Units
      - 4.8.1.1.3. Graft Trimming and Cleaning
      - 4.8.1.1.4. Implanting Micrografts
  - 4.8.2. Capillary Technician
    - 4.8.2.1. Functions
      - 4.8.2.1.1. Assisting the Nurse
      - 4.8.2.1.2. Preparing the Room
      - 4.8.2.1.3. Graft Trimming and Cleaning
      - 4.8.2.1.4. Implanting Micrografts
      - 4.8.2.1.5. Sterilization and Cleaning of the Room and Equipment
- 4.9. Complications/Emergencies in Surgery
- 4.10. Post-Surgery Treatment
  - 4.10.1. Post-Operative Medication
  - 4.10.2. Keep the Graft Site Clean and Hydrated
  - 4.10.3. Sleep in a Half-Seated Position (40°/45°)
  - 4.10.4. Avoid Sun Exposure
  - 4.10.5. Minimal Physical Exercise
  - 4.10.6. Apply Cold to the Face

## Module 5. Cosmetic Treatments/Hair Cosmetics

- 5.1. Hair Cosmetics Definition. Concept. Materials Used
- 5.2. Hair Prosthesis. Definition. Differences between Male and Female
  - 5.2.1. Manufacturing Materials
    - 5.2.1.1. On the Outside of the Prosthesis: Different Types of Human Hair and Synthetic Hair
    - 5.2.1.2. From the Inside of the Prosthesis: Tulle, Gauze, Mesh, Plasticized
  - 5.2.2. Manufacturing Techniques
    - 5.2.2.1. Choppy hair
    - 5.2.2.2. Woven hair
  - 5.2.3. Fastening Materials
    - 5.2.3.1. Self-adhesives
    - 5.2.3.2. Glues or adhesives
    - 5.2.3.3. Stitched
  - 5.2.4. Importance of Hair Prosthesis Maintenance
- 5.3. Micropigmentation
  - 5.3.1. Micropigmentation Techniques
    - 5.3.1.1. Capillary
    - 5.3.1.2. Eyebrows
    - 5.3.1.3. Beard
  - 5.3.2. Aspects to Consider when Applying Hair Micropigmentation
  - 5.3.3. Products Used in Hair Micropigmentation
  - 5.3.4. Equipment Used in Hair Micropigmentation
  - 5.3.5. Micropigmentation Preservation
- 5.4. Hair Fibers
  - 5.4.1. Spray
  - 5.4.2. Powder
- 5.5. Definition of Cosmetic Treatments
  - 5.5.1. Limitations of Cosmetic Treatments
- 5.6. Cosmetic Penetration
  - 5.6.1. Penetration Routes
  - 5.6.2. Degrees of Penetration
    - 5.6.3. Penetration Factors
- 5.7. General Composition of Cosmetics. Active Ingredients, Excipients, Coloring, Perfume, Preservatives, Correcting Agents
  - 5.7.1. Active ingredients
    - 5.7.1.1. Plant: Origin, Procurement, and Composition
    - 5.7.1.2. Animal: Origin, Procurement, and Composition
      - 5.7.1.2.1. Synthetic: Origin, Procurement, and Composition
      - 5.7.1.2.2. Others: Vitamins and Trace Elements
      - 5.7.1.2.3. Excipients
      - 5.7.1.2.4. Dyes
      - 5.7.1.2.5. Perfumes
      - 5.7.1.2.6. Preservatives
      - 5.7.1.2.7. Correctors
- 5.8. Cosmetic Used in Hair Treatments
  - 5.8.1. Dry Hair Cosmetics
  - 5.8.2. Oily and Seborrheic Cosmetics
  - 5.8.3. Pityriasis Cosmetics
  - 5.8.4. Alopecia Cosmetics
- 5.9. Cosmetic Forms of Hair Treatments
  - 5.9.1. Shampoos
  - 5.9.2. Lotions
  - 5.9.3. Peeling and Nourishing Masks
  - 5.9.4. Micronutrients
- 5.10. Appliances Used in Cosmetic Treatments
  - 5.10.1 Electrotherapy
  - 5.10.2. High Frequency
    - 5.10.3.1. Infrared
    - 5.10.3.2. Ultraviolet
    - 5.10.3.3. Cosmetic Laser
  - 5.10.3. Phototherapy
  - 5.10.4. Steamers
  - 5.10.5. Vibrators

- 5.11. Hair Massage
  - 5.11.1. Application Techniques
- 5.12. Treating Cancer Patients
  - 5.12.1. Oncology Patient Quality of Life and Esthetic Hair Medicine The Healing Power of Image
  - 5.12.2. Tests before Procedures in Oncology Patients
  - 5.12.3. Intervention of the Aesthetic Practitioner Before, During, and After Oncological Treatment
  - 5.12.4. Cancer Patient Micronutrition

## Module 6. Medical/Pharmacological Treatments and Research in Trichology and New Treatment Alternatives

- 6.1. Oral Minoxidil (Rogaine®) vs. Topical Minoxidil
  - 6.1.1. Antihypertensive
  - 6.1.2. Available in 2% and 5% Solutions
  - 6.1.3. Desired Effects: Vasodilation, Angiogenesis, and Enhanced Cell Proliferation
  - 6.1.4. Side Effects: Contact Dermatitis and Temporary Hair Loss during the First Four Months of Use
  - 6.1.5. Minoxidil 5% Foam Does Not Contain Propylene Glycol (potential irritant) and Lowers the Incidence of Pruritus
- 6.2. Oral Dutasteride (Avodart ®): Effectiveness and Safety
  - 6.2.1. Dihydrotestosterone Production Inhibitor for the Treatment of Benign Prostatic Hyperplasia (BPH)
  - 6.2.2. Dutasteride efficacy at 2.5 mg/day
  - 6.2.3. Side Effects
- 6.3. Finasteride (Propecia®): Most Common for Male Pattern Baldness
  - 6.3.1. A Reductase Inhibitor that Reduces the Conversion of Testosterone to Dihydrotestosterone or DHT Better than Finasteride
  - 6.3.2. More Effective Equal Safety for Men and Women
  - 6.3.3. Women: Avoid Pregnancy during Treatment and 6 Months After It Is Not Officially Approved for Use in Women
    - 6.3.3.1. Combination with an Effective Oral Contraceptive
  - 6.3.4. Finasteride Safety vs. Dutasteride
  - 6.3.5. Dutasteride Microinjections
  - 6.3.6. Improved Hair Quantity and Thickness
  - 6.3.7. Progress Over Time: 6 Months to 1 Year
  - 6.3.8. Daily dose: 1mg
  - 6.3.9. Problems of a Sexual Nature
- 6.4. 2% Ketoconazole Topical Shampoo (Nizoral ®)
  - 6.4.1. Antifungal Agent
  - 6.4.2. Treatment for Dermatitis and Dandruff
  - 6.4.3. Action on Scalp Microflora
  - 6.4.4. Beneficial Effect on Androgenetic Alopecia Associated with Hair Follicle Inflammation
- 6.5. Dexamethasone Minipulse Therapy (alopecia areata): Risks vs. Continuous Corticosteroids
- 6.6. JAK Inhibitor Drugs (Alopecia Areata)
  - 6.6.1. Clinical Trials: Ruxolitinib or Tofacitinib (Extensive Alopecia Areata)
  - 6.6.2. Efficacy and Safety Results
- 6.7. Anti-Androgens (Frontal Fibrosing Alopecia): Finasteride and Oral Dutasteride in Females with Frontal Fibrosing Alopecia
  - 6.7.1. Loss of Eyebrows and Hair in the Frontal and Temporal Region ("Headband Area")
  - 6.7.2. Block the Binding of Androgen Receptor to Testosterone
  - 6.7.3. Cyproterone Acetate and Spironolactone
- 6.8. Prostaglandin Analogs
  - 6.8.1. Lipidic Substances Derived from 20-Carbon Fatty Acids (Eicosanoids)
  - 6.8.2. They affect and act on different systems of the organism: nervous system, smooth muscle, blood and reproductive system;
  - 6.8.3. They regulate various functions: blood pressure, blood coagulation, the allergic inflammatory response and the activity of the digestive system
  - 6.8.4. Bimatoprost (Latisse®) is now available as a treatment for eyelash growth
  - 6.8.5. Latanoprost Increases Hair Density and May Increase Pigmentation
- 6.9. Estrogens
  - 6.9.1. Indirect Anti-Androgens

- 6.10. Capillary Cloning:
  - 6.10.1. Future Therapies. Unlimited Follicles from Hair Stem Cells. Human Clinical Trials
  - 6.10.2. Two main approaches under investigation: direct injection of cultured cells or the use of factors that promote cell multiplication
  - 6.10.3. Cells are cultured and the culture supernatant is processed to produce a rich compound to promote hair growth
  - 6.10.4. PRP: Biostimulation Techniques
    - 6.10.4.1. Increase the Number of Blood Vessels and Improve Circulation
    - 6.10.4.2. Promote the Production of Collagen
    - 6.10.4.3. Counteract the Negative Effect of Free Radicals and Prevent Cellular Aging
    - 6.10.4.4. Closed Technique
- 6.11. Hair Transplantation with Micrografts in Men and Women
  - 6.11.1. Robots Capable of Automated Extraction
- 6.12. Low Power Laser:
  - 6.12.1. Different Wavelengths and Different Modes
  - 6.12.2. Low-Level Laser Intensive (LLLI) Laser Therapy
  - 6.12.3. Uses: Female Androgenetic Alopecia and/or MGA Male Androgenetic Alopecia. Treatments in Monotherapy or as Combined Therapies
  - 6.12.4. Penetrates the Surface of the Skin. Stimulates Blood Flow. Helps Nutrients, Blood, and Oxygen Reach Hair Follicles
  - 6.12.5. Hair Revitalization, Elimination of Toxins and any Blockages Found within the Follicle
- 6.13. Alternative Treatments:
  - 6.13.1. Herbs, Vitamins, and Minerals
  - 6.13.2. Biotin, Caffeine, Melatonin, Copper Complexes
- 6.14. Considerations:
  - 6.14.1. Minoxidil and Finasteride must be used continuously for results and once discontinued, the natural balding process will
  - 6.14.2. PG Analogs Have a Much More Potent and Longer Lasting Effect, Although Not Permanent
  - 6.14.3. Prostaglandin F2 Alpha Analogs Latanoprost and Bimatoprost are Used in the Treatment of Ocular Hypertension and Glaucoma

## Module 7. Hair Transplantation with the FUSS Technique

- 7.1. Concept/Definition
  - 7.1.1. History & Evolution
- 7.2. Safe Area Definition
- 7.3. Advantages
- 7.4. Disadvantages
  - 7.4.1. Scar
  - 7.4.2. Post-Operative
  - 7.4.3. Suture
- 7.5. Indications
- 7.6. Contraindications
  - 7.6.1. Keloids
  - 7.6.2. Black Race
- 7.7. Technical Aspects
  - 7.7.1. Dissection
  - 7.7.2. Trichophytic Closure
- 7.8. Post-Operative
- 7.9. Complications
  - 7.9.1. During Extraction: Undermining
  - 7.9.2. After Extraction: Bruising, Pain, Necrosis
    - 7.9.2.1. Treating Complications

## Module 8. Hair Transplantation with the FUE Technique

- 8.1. Hair Micrograft. Concept. Theory. History & Evolution
- 8.2. Indications for hair transplantation
- 8.3. Contraindications to hair transplantation
- 8.4. Advantages and Disadvantages of the FUE Technique
  - 8.4.1. Current Status of the FUE Technique
- 8.5. Anesthesia of the Donor and Recipient Region
- 8.6. Allergic Reactions and Anaphylactic Shock



- 8.7. FUE Technique in Hair Implantology
  - 8.7.1. Choice of follicular units
  - 8.7.2. Instruments Used in the FUE Technique
  - 8.7.3. Patient design
  - 8.7.4. Preparation of the patient and donor site
  - 8.7.5. Extracting Follicular Units
  - 8.7.6. Follicular Unit Maintenance Solutions
  - 8.7.7. Preparing the Receptor Site
  - 8.7.8. Incisions
  - 8.7.9. Implementation
- 8.8. Implantation with Implanters
- 8.9. FUE Technique Complications
  - 8.9.1. Intra-Operative
  - 8.9.2. Post-Operatives

## Module 9. Effluvia

- 9.1. Concept of Effluvium
- 9.2. Epidemiology
- 9.3. Effluvia Classification
- 9.4. Guided Clinical History
- 9.5. Acute Anagen Effluvium
  - 9.5.1. Pathophysiology of Acute Anagen Effluvium
  - 9.5.2. Diagnosis of Acute Anagen Effluvium
    - 9.5.2.1. Types of Acute Anagen Effluvium
    - 9.5.2.2. ChemotherapyInduced Dystrophic Effluvium
    - 9.5.2.3. RadiotherapyInduced Dystrophic Effluvium
    - 9.5.2.4. ToxinInduced Dystrophic Effluvium
- 9.6. Chronic Anagen Effluvium
  - 9.6.1. Pathophysiology of Chronic Anagen Effluvium
  - 9.6.2. Diagnosis of Chronic Anagen Effluvium
- 9.7. Acute Telogen Effluvium
  - 9.7.1. Pathophysiology of Acute Telogen Effluvium
  - 9.7.2. Diagnosis of Acute Telogen Effluvium
  - 9.7.3. Types of Acute Telogen Effluvium
- 9.8. Chronic Telogen Effluvium
  - 9.8.1. Pathophysiology of Chronic Telogen Effluvium
  - 9.8.2. Diagnosis of Chronic Telogen Effluvium
- 9.9. Differential Diagnosis of Chronic Telogen Effluvium
- 9.10. Effluvia Treatment
- 9.11. Algorithm for Managing Patients with Diffuse Capillary Leakage

## Module 10. Legal, Economic, and Marketing Aspects

- 10.1. Introduction to the Legal Regulations of Professional Development
- 10.2. Medicolegal Aspects in the Practice of Trichology
  - 10.2.1. Current Legislation on Medical Products, Cosmetics, Phytotherapeutic Products, etc.
  - 10.2.2. Civil and Health Liability
- 10.3. Legal and Economic Aspects of Free Exercise, Contracting Regimes, Personal Income Tax, VAT, etc.
- 10.4. Patient-Doctor Relationship
  - 10.4.1. Informed Consent in Capillary Medicine and Surgery
  - 10.4.2. Data Protection, Medical Records Management and Archiving, Iconography (Acquisition and Archiving)
  - 10.4.3. Regulations in Relation to Patients
- 10.5. Management of a Hair Transplantation and Capillary Medicine Practice
  - 10.5.1. Regulations Regarding Human Resources
  - 10.5.2. Managing Complaints
- 10.6. Communication Skills in Hair Transplantation and Capillary Medicine
- 10.7. Media Communication
- 10.8. Interprofessional Communications
  - 10.8.1. Ethical Principles
- 10.9. Planning of a Hair Transplantation and a Capillary Medicine Unit
- 10.10. Organization and Marketing. Sales Techniques for Capillary Surgeons
- 10.11. Social Networks: Importance and Proper Use

07

# Clinical Internship

After passing the Online Education period, the program includes a practical training period in a reference clinical center. The student will have at their disposal the support of a tutor who will accompany them during the whole process, both in the preparation and in the development of the clinical practice.





“

*The best way to learn is through practice:  
perform hair transplants thanks to TECH”*

The Internship Program for this Hybrid Professional Master's Degree in Hair Transplantation is based on a clinical practical internship at a reference center for Hair Transplantation and aesthetic medicine. This internship lasts for 3 weeks, with a Monday to Friday schedule and 8 hours of consecutive learning each day alongside an associate specialist. This structure allows for the constant and smooth application of knowledge.

This way, a 100% practical education is proposed, giving the student access to materials, technology, and surgical interventions to acquire the necessary skills for independent work in other professional and occupational environments. The activities, dynamics, and practical tasks are designed to prepare the physician during the internship to face various challenges and circumstances that may arise when establishing hair treatments or performing hair surgery.

Among the types of activities, tasks, technologies, and interventions included are trichograms, the use of finasteride, dutasteride, the FUSS technique, the FUE technique, different diagnostic methods like epidemiological, cosmetic, dietary, topical, or systemic treatments, etc.

This ensures a comprehensive and in-depth education that employs various techniques and approaches to hair transplant treatment and prevention. As a result, the student will have access to real activities and cases, enabling them to learn and apply the theory presented throughout the Hybrid Professional Master's Degree.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for medicine practice (learning to be and learning to relate).





The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:

Module	Practical Activity
<b>Medical consultation and initial examinations</b>	Perform scalp Trichogram on the patient
	Take the necessary photographs for hair study
	Recommend blood analysis to understand the patient's clinical specifics
	Analyze the collected samples and data to plan the subsequent surgical intervention
	Conduct postoperative consultation to assess the patient
<b>Assesment of hair diseases, alopecia, and effluvium</b>	Conduct assessments of cicatricial and non-cicatricial alopecia and hyperhidrosis
	Indicate the cosmetic, dietary, topical, local or systemic treatment adjusted to each case of androgenetic alopecia
	Apply the technique of capillary mesotherapy in androgenetic alopecia
	Carry out the process of androgenetic hair micrografts
	Perform epidemiological analysis and subsequent treatment for telogen effluvium
<b>Pharmacological Treatment</b>	Recommend, based on each case, the use of Oral Minoxidil or Topical Minoxidil
	Suggest the use of oral Dutasteride
	Use Finasteride in cases where it is required
	Apply androgens in cases of frontal fibrosing alopecia
	Evaluate the use of novel drugs such as JAK pathway inhibitor to treat severe alopecia areata
<b>Hair Transplant Techniques</b>	Perform the FUSS technique
	Perform the FUE technique
	Use the DHI method with implanters
	Implant using the FUE technique with implanters
	Administer anesthesia in both the donor and recipient areas
	Perform postoperative follow-up, considering growth rates as well as general recommendations for the patient

## Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieving this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



## General Conditions for Practical Training

The general terms and conditions of the internship program agreement shall be as follows:

**1. TUTOR:** During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOES NOT INCLUDE:** The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

# 08

## Where Can I Do the Clinical Internship?

This Hybrid Professional Master's Degree in Hair Transplantation includes an internship program at a prestigious hair aesthetics center as part of its syllabus, where students can apply everything they have learned during their studies. This internship experience takes the theoretical education to another level.







“

*You will not find another program that allows you to practically address various cases of alopecia and the most effective response through a hair transplant”*



The student will be able to complete the practical part of this Hybrid Professional Master's Degree at the following centers:



Medicine

### Clínica Microcapilar Hair Clinic

Country	City
Spain	Madrid

Address: C/ General Ampudia 6 (28003) Madrid

Specialized microcapillary clinic in cutting-edge techniques

**Related internship programs:**  
- Hair Transplantation



Medicine

### MicroEtéreo Beauty Clinic

Country	City
Spain	Madrid

Address: C/ General Ampudia 6 (28003) Madrid

Aesthetic Medicine and Dermocosmetics Center

**Related internship programs:**  
- Aesthetic Medicine  
- Hair Transplantation



Medicine

### Inpylus Clínica Capilar

Country	City
Spain	Murcia

Address: Paseo de Florencia 33 Bajo, 30010, Murcia

Aesthetic Medicine Clinic specializing in hair treatment

**Related internship programs:**  
- Hair Transplantation



Medicine

### Dr. Alex Seiadatan

Country	City
Spain	Madrid

Address: Clínica, pionera en la técnica FUE en España

27 years of experience in hair transplantation with the FUE (manual) technique

**Related internship programs:**  
- Hair Transplantation



Medicine

### Varicentro-Sevilla-Buhaira

Country	City
Spain	Seville

Address: Calle Blanco White, 7, Local la Buhaira 41018 Sevilla

Varicentro is a specialized medical group with 23 clinics in Spanish territory

**Related internship programs:**  
- Hair Transplantation  
- Obesity



Medicine

### Varicentro-Valladolid

Country	City
Spain	Valladolid

Address: Calle Juan de Juni, 4, 47006 Valladolid

Varicentro is a specialized medical group with 23 clinics in Spanish territory

**Related internship programs:**  
- Obesity  
- Hair Transplantation



Medicine

### Clínica Integria

Country	City
Spain	Granada

Address: Calle Torre de Comares, 2, 18007 Granada

INTÉGRIA, a clinic with over 20 years of experience in Aesthetic Medicine, General Medicine, Hair Surgery, and Aesthetic Surgery

**Related internship programs:**  
- Clinical Analysis  
- Aesthetic Plastic Surgery



Medicine

### Mediben

Country	City
Spain	Baleares

Address: c/ Federico García Lorca 2, 1ºB, 07014 Palma

At Mediben, they offer treatments in Aesthetic Medicine, Aesthetic Surgery, Nutrition, Regenerative Medicine, and Hair Restoration

**Related internship programs:**  
- Aesthetic Plastic Surgery  
- Aesthetic Medicine



Medicine

### Clínica Londres Rosselló

Country City  
Spain Barcelona

Address: C/ del Rosselló, 231, 08008 Barcelona

Specialists in Aesthetic Medicine and Plastic-Reconstructive Surgery

**Related internship programs:**

- Esthetic Nursing
- Antiaging



Medicine

### Clínica Londres Lagasca

Country City  
Spain Madrid

Address: Calle de Lagasca, 95, 28006 Madrid

Specialists in Aesthetic Medicine and Plastic-Reconstructive Surgery

**Related internship programs:**

- Aesthetic Plastic Surgery
- Gynecoesthetics



Medicine

### Clínica Garcilaso

Country City  
Spain Madrid

Address: C. de Garcilaso, 7, 28010 Madrid

Garcilaso Clinic is renowned as one of the best choices in the field of hair restoration

**Related internship programs:**

- Hair Transplantation



Medicine

### RC Clínica


Country City  
Spain Madrid

Address: C. de Clara del Rey, 33, 28002 Madrid

RC Estética, a clinic for plastic and aesthetic surgery, was founded over 28 years ago in Madrid by Doctor Roy Camacho.

**Related internship programs:**

- Hair Transplantation



Medicine

### Clínica Viland

Country	City
Argentina	Autonomous City of Buenos Aires

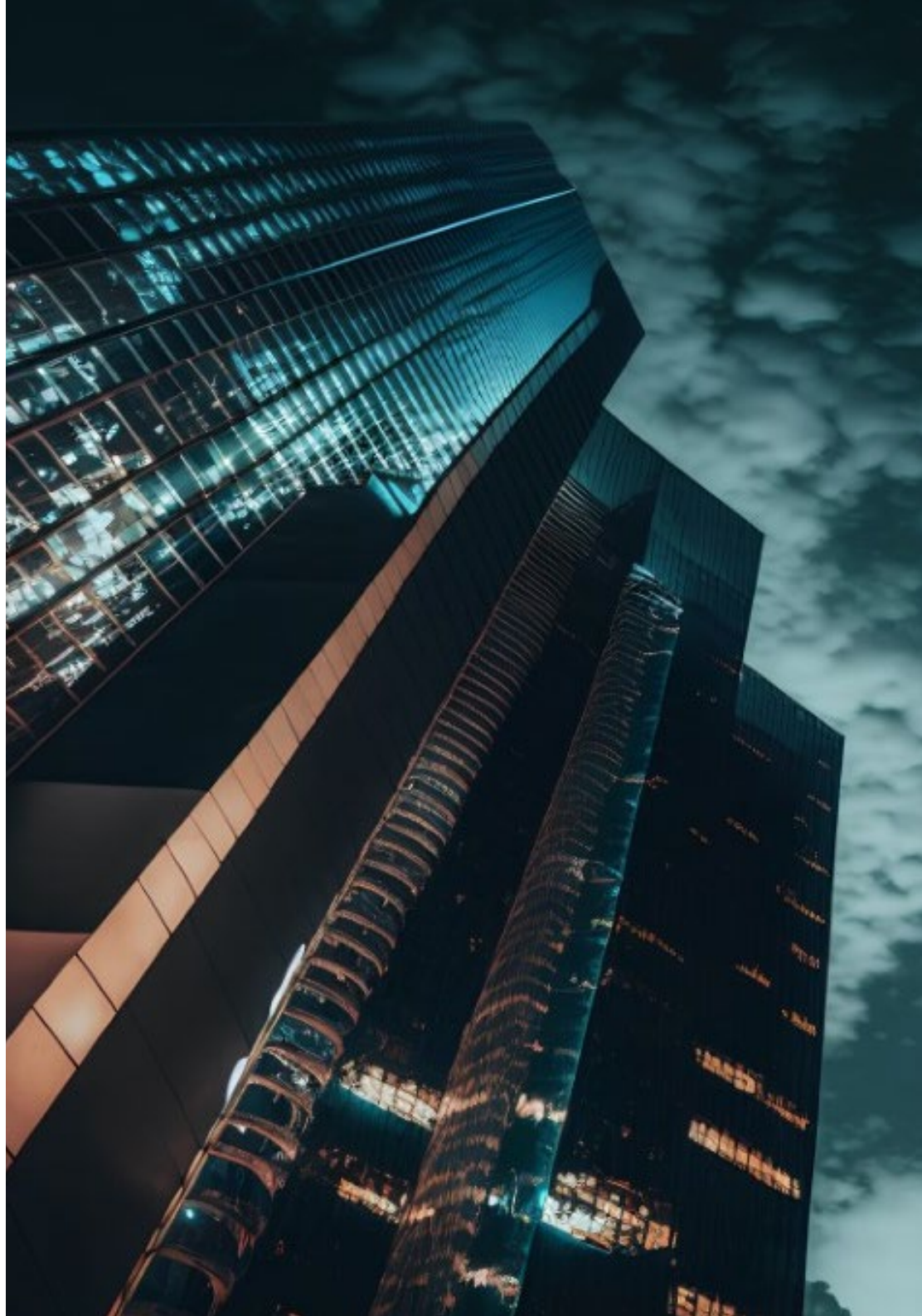
Address: Sarmiento 552 piso 15, C1041 CABA, Argentina

Clinic specialized in Aesthetic Medicine and hair transplants

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**Related internship programs:**

- Aesthetic Medicine
- Hair Transplantation





### Clínica del Pelo

Country  
Argentina

City  
Autonomous City  
of Buenos Aires

Address: Vedia 1661 6° piso,  
Ciudad de Buenos Aires

Center specialized in Aesthetic and Reconstructive  
Plastic Surgery

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**Related internship programs:**  
- Hair Transplant

09

# 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. Gérvas, 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.



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*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.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 10 Certificate

This Hybrid Professional Master's Degree in Hair Transplantation guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional Master's Degree diploma issued by TECH Technological University.



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

This **Hybrid Professional Master's Degree in Hair Transplantation** contains the most complete and up-to-date program on the professional and educational field.

After the student has passed the assessments, they will receive their corresponding Hybrid Professional Master's Degree diploma issued by TECH Technological University via tracked delivery\*.

In addition to the diploma, students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information.

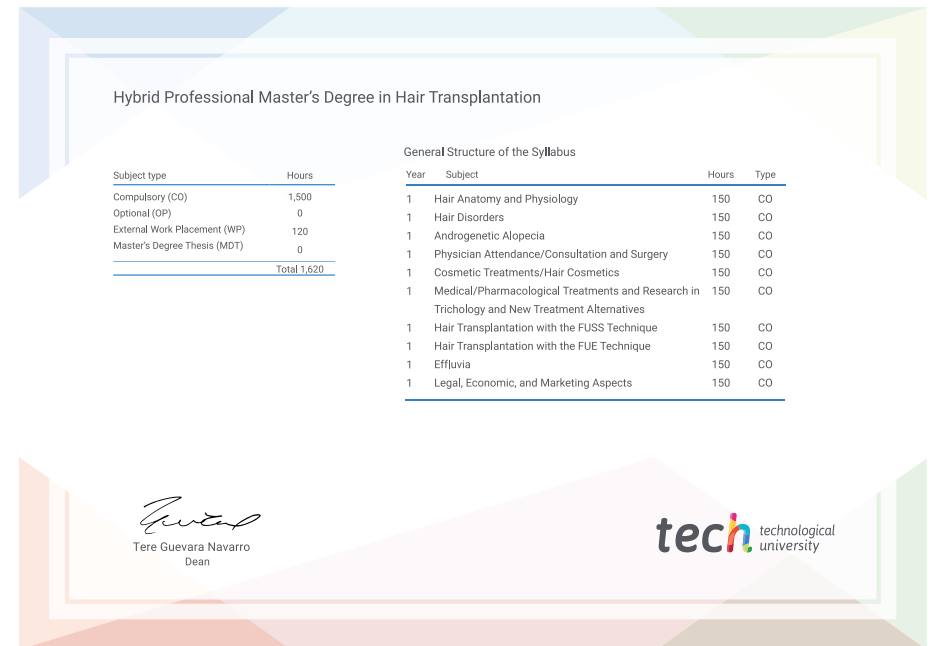
Title: **Master's Degree Hybrid in Hair Transplantation**

Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Technological University**

Teaching Hours: **1.620 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.





## Hybrid Professional Master's Degree Hair Transplantation

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1.620 h.

# Hybrid Professional Master's Degree

## Hair Transplantation

