

# Professional Master's Degree

## Hand Surgery





## Professional Master's Degree Hand Surgery

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/professional-master-degree/professional-master-degree-hand-surgery](http://www.techtitute.com/us/medicine/professional-master-degree/professional-master-degree-hand-surgery)

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# 01

# Introduction

The use of robotics and 3D technology in preoperative planning for hand injuries requiring complex interventions is becoming increasingly important. These advances will undoubtedly transform the procedures and techniques used in the various existing pathologies. For this reason, TECH has designed this program that leads specialists to perform a complete up-date in the most notorious advances in this field, as well as the approach to fractures and joint dislocations, nerve injuries or Dupuytren's disease, vascular and tumors. All in a 100% online pedagogical format with flexible access to the most advanced curriculum in the academic panorama, 24 hours a day, 7 days a week.



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*You are in front of the most complete program of clinical knowledge in Hand Surgery. Update yourself with the best specialists in Upper Extremity"*

The number of patients requiring surgical interventions in trauma emergencies exceeds 50%, which shows the relevance of this subspecialty in the healthcare field. In addition to this, there is the continuous improvement of technology with the incorporation of Robotics, Artificial Intelligence or 3D, used for the planning of more complex operations.

In this sense, the surgeon is in a moment of transformation and relevance of his performance in order to offer patients effective treatments and to avoid chronic sequelae. A field that requires specialists to be updated in their area. Therefore, in order to promote this update, TECH has designed this 12-month Professional Master's Degree in Hand Surgery, developed by an extensive faculty of experts in this field.

It is a program that is distinguished by providing the graduate with the most rigorous information, based on the latest medical evidence through high quality teaching materials. In this way, students will delve through video summaries of each topic, videos in detail, complementary readings and simulations of case studies in the most notorious advances in a dynamic and agile way.

From conservative treatments to address fractures and joint dislocations of the fingers and wrist, the possible sequelae, through the management of tendon, nerve and brachial plexus injuries to the latest technical advances will be treated with the utmost rigor in this program. An academic option that also includes specific modules on Dupuytren's disease, Tumors and Vascular Diseases or delves into the Pediatric Upper Limb.

Undoubtedly, an ideal opportunity to take a quality, flexible program that can be completed comfortably, whenever and wherever you want. The student only needs a digital device with an internet connection to view, at any time of the day, the content hosted on the virtual platform. A university proposal that adapts both to the real needs of healthcare professionals and to their most demanding professional activities.

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

- The development of practical cases presented by experts in Upper Limb Surgery, Orthopedic Surgery and Traumatology
- 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
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- 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



*A university program that addresses ultrasound-assisted surgery, which is becoming more and more widespread"*

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*Delves into specific wrist and hand injuries in certain work and physical activities such as those produced in climbers”*

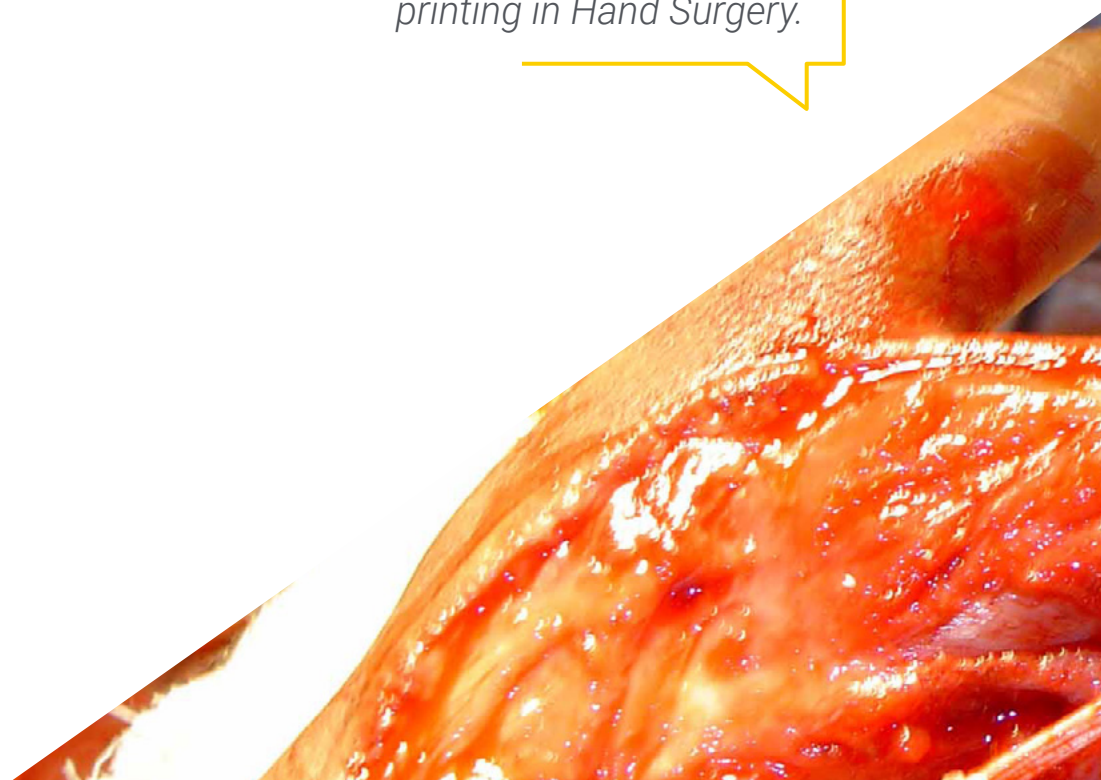
The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn 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 during the academic year. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*A program designed to fit your professional agenda and your most demanding responsibilities.*

*Get an update on the great impact of Robotics or 3D printing in Hand Surgery.*



# 02 Objectives

This university program offers surgeons a complete update on the various hand pathologies, their sequelae and the most effective treatments currently available. An academic itinerary that facilitates an update thanks to the innovative teaching tools provided by TECH and an excellent team of specialists dedicated to this field and with continued clinical experience in hospitals of national and international reference. A unique opportunity offered only by this institution, the largest digital university in the world.







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*You will be up-to-date in the planning of the most advanced treatments in Hand Surgery in only 12 months"*



## General Objectives

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- Update knowledge in the different medical and basic specialties surrounding hand pathology
- Determine the types of wound healing, sutures and skin grafts to specify the treatment of less complex wounds; escalating to the management of complex wounds
- Analyze the basic anatomy of the wrist and hand to provide a starting point from which to recognize injuries that may occur after trauma or injury of any kind
- Structure the bony and ligamentous anatomy of metacarpals and phalanges of the hand
- Analyze different surgical approaches to the hand
- Compile current arthroscopic treatment methods
- Establish general criteria for the anatomy and pathophysiology of osteoarthritis in the various joints of the wrist and hand
- Analyze in detail the anatomy of the flexor and extensor tendons of the hand, as well as the detailed development of their vascularization and the biology of tendon healing
- Homogenize knowledge and skills in the pathology of the peripheral nerve of the upper limb and brachial plexus
- Update diagnostic and therapeutic knowledge based on the fundamental principles of nerve and brachial plexus injuries
- Guide the different therapeutic options (conservative and surgical) as well as the appropriate time to perform them
- Examine the different surgical techniques used in the treatment of the different pathologies of the pediatric upper limb
- Delve into the anatomical and pathophysiological knowledge of Dupuytren's disease through physical examination and accurate use of the classification of the disease, to determine the appropriate timing of surgical treatment
- Analyze the surgical techniques available in primary and relapsed Dupuytren's disease and the sequelae of previous treatments
- Show the advantages of ultrasound for daily practice in Traumatology
- Explore occupational hand-wrist injuries
- Develop the latest technological advances in Hand Surgery



*You will be aware of the scientific evidence for the choice of conservative or surgical treatments in inflammatory arthritis"*



## Specific Objectives

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### **Module 1. Basic sciences applied to hand and upper extremity surgery.**

#### **Methodology. Rehabilitation**

- ◆ Place chronologically the current state of hand surgery after a historical review
- ◆ Analyze the physiological bases necessary for the study of hand pathology
- ◆ Define the imaging techniques available for the study of hand pathology, develop each of them and specify their indications
- ◆ Review the anesthetic techniques used during hand surgery
- ◆ Delve into the advantages, disadvantages and risks of each of them and understand the indication of one or the other
- ◆ Delve into orthopedic and rehabilitative treatment in hand pathology processes, as well as non-surgical treatments, and their importance in the postoperative period
- ◆ Develop the concepts of hand surgery research, analyzing the different types of clinical studies and levels of scientific evidence

### **Module 2. Hand Skin, Soft Parts and Infections**

- ◆ Examine types of hand wounds, wound healing and types of sutures
- ◆ Delve into the knowledge of skin grafts
- ◆ Analyze the use of microsurgery for skin coverage in the Hand, as well as for reimplantation
- ◆ Analyze infections of the hand, cellulitis, tenosynovitis, arthritis and osteomyelitis
- ◆ Determine detailed management of the burned hand and its consequences

### **Module 3. Fractures and joint dislocations Wrist-Hand. Conservative and Surgical Treatment. Sequels**

- ♦ Delve into the types of distal radius and ulna fractures, as well as specify a specific diagnostic method and treatment protocol for each injury
- ♦ Develop the criteria for distal radioulnar instability in order to establish a correct method of diagnosis and treatment
- ♦ Analyze the anatomy and vascularization of the scaphoid, as well as evaluate fracture patterns and how they affect the evolution of the fracture
- ♦ Identify the different scaphoid fracture patterns that will determine the possible complications that may occur
- ♦ Introduce the complications associated with the non-treatment of distal radius fractures, scaphoid or carpal dislocations, as well as their diagnosis and definitive treatment

### **Module 4. Finger Fractures and Dislocations Conservative and surgical treatment. Sequelae. Wrist Arthroscopy**

- ♦ Structure injury mechanisms and types of fractures of phalanges and metacarpals
- ♦ Expose periungual injuries and their most effective treatment according to the type of involvement
- ♦ Classify specific ligamentous injuries of the fingers and their most specific treatment
- ♦ Examine the most commonly used arthroscopic portals
- ♦ Establish arthroscopic evaluation pathway to diagnose possible injuries

### **Module 5. Inflammatory Arthritis and Degenerative Arthrosis of the Wrist and Hand. Conservative and Surgical Treatment. Evidence**

- ♦ Define the basic differential diagnosis of wrist and hand arthropathies
- ♦ Obtain a global vision of the Inflammatory Arthropathies to see the differences between them and also to discern the best treatment for each one of them

- ♦ Analyze rhizarthrosis, its diagnosis and severity classification and develop the different therapeutic strategies, conservative or surgical
- ♦ Identify osteoarthritis of proximal and distal interphalangeal joints, carpometacarpal joints (excluding the thumb, mentioned in another topic) and scapho-trapezio-trapezoid joints
- ♦ Develop the known surgical techniques and master their indications and technical details
- ♦ Present the degenerative pathology of the triangular fibrocartilage as an important triggering factor of wrist discomfort
- ♦ Clarify the pathophysiology of Kienböck's disease, the Gold standard for its diagnosis and be able to classify it in severity, thus being able to choose the best treatment

### **Module 6. Tendon Injuries of the Hand**

- ♦ Examine in detail the anatomy and vascularization of the flexor and extensor tendons and analyze their biomechanics
- ♦ Delve into the diagnosis and prognosis of flexor tenosynovitis of the fingers, as well as its complications
- ♦ Evaluate extensor tenosynovitis from its initial diagnosis to its conservative and surgical treatment
- ♦ Examine the different tendon suturing techniques in different flexor tendon areas, as well as types of post-surgical immobilization and initiation of rehabilitative therapy
- ♦ Identify extensor tendon rupture zones and their optimal treatment, as well as their rehabilitation protocol
- ♦ Delve into the complications of extensor tendon sutures and their treatment
- ♦ Analyze flexor suture failures and their treatment

**Module 7. Nerve and Brachial Plexus Injuries**

- ♦ Develop the embryology and anatomy of the brachial plexus and distal branching to the peripheral nerves of the upper limb
- ♦ Establish the etiology and pathophysiology of compressive syndromes of the ulnar, median and radial nerves
- ♦ Identify other compressive factors in wrist and hand or other pathologies, such as thoracic gorge
- ♦ Examine the principles, indications and surgical recommendations for nerve repair and nerve transfer techniques
- ♦ Demonstrate palliative tendon surgery as a valid option for the treatment of peripheral nerve palsy after failure of other nerve rescue techniques
- ♦ Fundamentals of basic principles of strategy and management of brachial plexus pathology
- ♦ Define central nervous system lesions, analyze signs and symptoms of spasticity and generate surgical strategies for tetraplegia

**Module 8. Pediatric Upper Member**

- ♦ Delve into the knowledge of the origin and embryology of the different congenital malformations
- ♦ Identify the different congenital malformations, studying, in each pathology, its etiopathogenesis, clinical study, complementary studies, classifications and treatments
- ♦ Evaluate the different treatment options for tumors affecting the pediatric hand, including resections, amputations and reconstructions in the surgical treatment
- ♦ Evaluate and analyze the treatment options for obstetric brachial plexus injuries, including conservative and surgical treatment

**Module 9. Dupuytren's Disease, Tumors and Vascular Diseases**

- ♦ Delve into the surgical anatomical knowledge of the palmar fascia
- ♦ Delve into the pathophysiological stages of Dupuytren's disease and the clinical classification of the disease
- ♦ Examine the different techniques for the treatment of Dupuytren's disease, both with collagenase (not available in Europe) and by selective regional fasciectomy
- ♦ Evaluate surgical incisions for primary surgery, complications and sequelae in Dupuytren's disease
- ♦ Develop vascular pathology in the hand, both tumors and malformations, as well as Raynaud's disease and hypothenar hammer syndrome
- ♦ Analyze soft tissue and bone tumors of the hand and establish the best diagnostic techniques
- ♦ Delve into the surgical treatment techniques adapted to the most common tumors, taking into account their prognosis of recurrence

**Module 10. Advances in Hand Surgery. Other Lesions**

- ♦ Provide step-by-step guidelines for the diagnosis and ultrasound-guided treatment of hand and wrist injuries
- ♦ Evaluate hand injury prevention and treatment guidelines for climbers and musicians
- ♦ Identify patients most susceptible to occupational hand injuries
- ♦ Establish treatment protocol for CRPS

# 03 Skills

The professional who takes this academic option will be able to enhance throughout the 1,500 teaching hours his skills for the diagnosis and surgical treatment of the main pathologies of the Hand. In this way, they will be able to apply in their clinical practice the latest technological advances and the most precise techniques in both adult and pediatric patients. For this purpose, high quality multimedia resources and 100 case studies that provide a very useful theoretical-practical vision.





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*Increase your skills in detecting  
inadvertent sequelae of flexor  
and extensor tendon ruptures”*



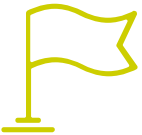
## General Skills

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- ♦ Examine the basics of microsurgery in hand surgery and the pedicled free flap coverings necessary in hand reconstruction
- ♦ Discuss finger reimplantation and skin coverage of the fingertips
- ♦ Identify infections of the hand and their medical and surgical treatment, establishing treatment timelines
- ♦ Develop the treatment of extravasation injuries and high-pressure injections in the hand
- ♦ Determine the potential complications of carpal and wrist fractures and fracture-dislocations that are treated conservatively or surgically in order to establish an effective treatment protocol
- ♦ Evaluate carpal biomechanics to help us identify injuries following fracture or dislocation within the first or second carpal row
- ♦ Develop stenosing tenosynovitis by establishing the diagnosis and treatment of De Quervain's disease, cross-linked syndrome and flexor tenosynovitis of the fingers primarily
- ♦ Perform clinical evaluation of the main congenital malformations of the upper limb, as well as the associations with other pathologies
- ♦ Evaluate the most frequent hand injuries in different recreational activities







## Specific Skills

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- ♦ Propose the management of complex wound management
- ♦ Develop pedicled and free flaps in complex wound coverings
- ♦ Evaluate injuries caused by high-pressure injections and extravasation injuries
- ♦ Establish the most effective diagnostic and treatment methods for wrist and hand injuries
- ♦ Establish the criteria for instability of a carpal dislocation fracture
- ♦ Define methods of clinical and radiological diagnosis of metacarpal and phalangeal fractures
- ♦ Develop treatment methods for a consolidation defect
- ♦ Correctly examine an unstable finger. Identify possible ligament injuries
- ♦ Perform specific physical examination and imaging tests suitable for diagnosing degenerative changes and their severity
- ♦ Apply the various possible surgical techniques for inflammatory arthritis and degenerative osteoarthritis of the wrist and hand
- ♦ Perform rehabilitation protocols for acute injuries of the extensor and flexor tendons of the hand
- ♦ Evaluate the sequelae of flexor and extensor tendon ruptures after inadvertent or failed surgical or rehabilitative treatments
- ♦ Perform initial management of different congenital malformations and other pathologies affecting the upper limb in growing patients
- ♦ Manage the most frequent benign and malignant tumors of the upper extremity affecting children
- ♦ Develop the diagnosis and surgical treatment, by interventional radiology and conservative radiology of vascular pathology in the hand
- ♦ Evaluate both benign and malignant tumors of the hand, as well as soft tissue and bone tumors, establishing their surgical treatment
- ♦ Propose surgical treatment and rehabilitation protocol after wrist arthroplasty



*Improve your skills in the management of Dupuytren's disease and the adequacy of timing of surgical treatment"*

# 04

# Course Management

In order to offer a real update in the field of Hand Surgery, TECH has assembled an excellent teaching team composed of specialists in Orthopedic Surgery and Traumatology. A large teaching team with first class clinical and research experience. Thanks to this background, students will have the guarantee of access to a quality program with the most comprehensive and current information in this subspecialty.





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*Get the best up-to-date information on surgical procedures of the Handby authentic specialists this field"*

## International Guest Director

Doctor David A. Kulber, is an internationally renowned personality in the field of Plastic and Hand Surgery. In fact, he has a distinguished career as a long-term member of the Cedars-Sinai Medical Group, his practice encompasses a wide range of plastic, reconstructive, cosmetic and hand procedures. He has served as Director of Hand and Upper Limb Surgery, and as Director of the Plastic Surgery Center, both positions at Cedars-Sinai Medical Center in California, United States.

His contribution to the medical field has been recognized nationally and internationally, and he has published nearly 50 scientific studies presented to prestigious medical organizations worldwide. In addition, he has been known for his pioneering work in bone and soft tissue regeneration research using stem cells, innovative surgical techniques for Hand Arthritis and advances in breast reconstruction. He has also received multiple awards and grants, including the prestigious Gasper Anastasi Award, given by the American Society for Aesthetic Plastic Surgery, and the Paul Rubenstein Award for Excellence in Research.

Beyond his clinical and academic career, Doctor David A. Kulber, has demonstrated a deep commitment to philanthropy through his co-founding of the Ohana One organization. This initiative has led him to undertake medical missions in Africa, where he has improved the lives of children who would not have access to specialized medical care, and trained local surgeons to replicate Cedars-Sinai's high level of care.

With impeccable academic preparation, he graduated with honors from the University of California and completed his medical training at the University of Health Sciences University/Chicago Medical School, followed by prestigious residencies and fellowships at Cedars-Sinai, New York Hospital-Cornell Medical Center and Memorial Sloan Kettering Cancer Center.



## Dr. Kulber, David A.

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- ♦ Director of Hand and Upper Limb Surgery, Cedars-Sinai Medical Center, California, United States
  - ♦ Director of the Center for Plastic and Reconstructive Surgery at Cedars-Sinai Medical Center
  - ♦ Director of the Center of Excellence in Plastic Surgery at Cedars-Sinai Medical Center
  - ♦ Medical Director of the Hand Rehabilitation and Occupational Therapy Clinic at Cedars-Sinai Medical Center
  - ♦ Vice Chair of the Medical Board at the Musculoskeletal Transplant Foundation
  - ♦ Co-founder of Ohana One
  - ♦ Specialist in General Surgery from Cedars-Sinai Medical Center
  - ♦ Doctor of Medicine from the University of the Health Sciences/Chicago Medical College
  - ♦ B.A. in European and Medical History from the University of California
- ♦ Member of:
    - ♦ American Society of Surgery of the Hand
    - ♦ American Society of Plastic Surgeons (American Board of Plastic Surgery)
    - ♦ Musculoskeletal Tissue Foundation
    - ♦ Grossman Burn Foundation
    - ♦ American Medical Association
    - ♦ American Society of Plastic and Reconstructive Surgeons
    - ♦ Los Angeles Plastic Surgery Society

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Dr. Ríos García, Beatriz

- ◆ Specialist in Orthopedic Surgery and Traumatology (Dr. Rayo and Amaya Team) at the Hospital San Francisco de Asís
- ◆ Resident Tutor at the Hospital ASEPEYO
- ◆ Medical Specialist in Hand Surgery (Dr. de Haro Team) at the San Rafael Hospital
- ◆ Teacher of Knee, Shoulder, Osteosynthesis, Locomotor System and Ultrasound Pathology Courses
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ Member of: Teacher of Knee, Shoulder, Osteosynthesis, Locomotor System and Ultrasound Pathology Courses



### Dr. Valdazo Rojo, María

- ◆ Traumatology and Orthopedic Surgery Area Specialist at the Hospital Fundación Jiménez Díaz
- ◆ Specialist in Traumatology and Orthopedic Surgery at the Albacete University Hospital Complex
- ◆ Professor of Medicine at the Universidad Alfonso X el Sabio, Madrid
- ◆ Professor of Medicine at the Autonomous University of Madrid
- ◆ Professor of Medicine at the University of Albacete
- ◆ PhD in Medicine and Surgery from the Complutense University of Madrid
- ◆ Graduated from the Universidad Autónoma de Madrid

## Professors

### Dr. Hernández Aguado, Juan José

- ♦ Coordinator of the CSUR of Brachial Plexus Surgery at the Virgen del Rocío University Hospital
- ♦ Teacher of the Department of Surgery of the University of Seville from 2018 to the present
- ♦ Teacher of Master of the International University of Andalusia
- ♦ Teacher of Master of the University of Seville
- ♦ Degree in Medicine from the University of Extremadura
- ♦ Specialist in Orthopedic Surgery and Traumatology at the Hospital Virgen del Rocío
- ♦ Doctor of Medicine, University of Seville
- ♦ Official Master's Degree in Biomedical Research from the University of Seville
- ♦ Official Master's Degree in Health Management by UNIDAM

### Dr. Sánchez García, Alberto

- ♦ Teacher in courses of the University of Valencia and Spanish Anatomical Society
- ♦ Graduated in Medicine from the University of Castilla La Mancha (UCLM), Faculty of Albacete
- ♦ Doctor of Medicine and Surgery from the University of Valencia, with a grade of outstanding Cum Laude
- ♦ Master in Aesthetic Medicine and Surgery by the European University Miguel de Cervantes

### Dr. Ibáñez Navarro, Adrián

- ♦ Coordinator "V Medical Caravan for Health & Sports Project" for TATU Project in Tanzania
- ♦ COVID-19 Support Physician at the Hospital Universitario La Paz
- ♦ Degree in Medicine from the Autonomous University of Madrid

### Dr. García Priego, Alfonso Luis

- ♦ Specialist in Orthopedic and Trauma Surgery
- ♦ Author and coordinator of the book "Traumatology for Emergency Doctors"
- ♦ Utility Model / Patent Inventor (55%) of the Utility Model "Osteotomy guide for surgery of the first metatarsal", approved by the Spanish Patent and Trademark Office
- ♦ Degree in Medicine from the University of Cadiz
- ♦ Postgraduate Diploma in Biostatistics applied to Health Sciences by the UNED
- ♦ Member of the teaching and research committee of the Hospital San Juan de la Cruz

### Dr. Pérez Prieto, Andrés

- ♦ Author of clinical teaching sessions in Orthopedics and Traumatology Service
- ♦ Graduated in Medicine from the University of Santiago de Compostela
- ♦ Senior Technician in Anatomical Pathology and cytology

### Dr. Ortega Centol, Aritz

- ♦ Specialist in Orthopedic Surgery and Traumatology in the Brachial Plexus and Microsurgery Unit at the Hospital Sant Joan de Déu in Esplugues de Llobregat
- ♦ Specialist in Orthopedic Surgery and Traumatology in the Knee Unit of MC Mutual
- ♦ Specialist in Orthopedic Surgery and Traumatology with Emergency activity at the Germans Trias y Pujol Hospital in Badalona
- ♦ Teacher of the Course of Medical and Surgical Emergencies of the Hospital de Bellvitge
- ♦ Teacher of clinical skills workshops of the Medical-Surgical Emergency Course at the Hospital de Bellvitge
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Hand and Peripheral Nerve Surgery Specialist

**Dr. Palmero Sánchez, Beatriz**

- ◆ Degree in Medicine from the University of Cantabria

**Dr. Gómez Lanz, Carlos Arcadio**

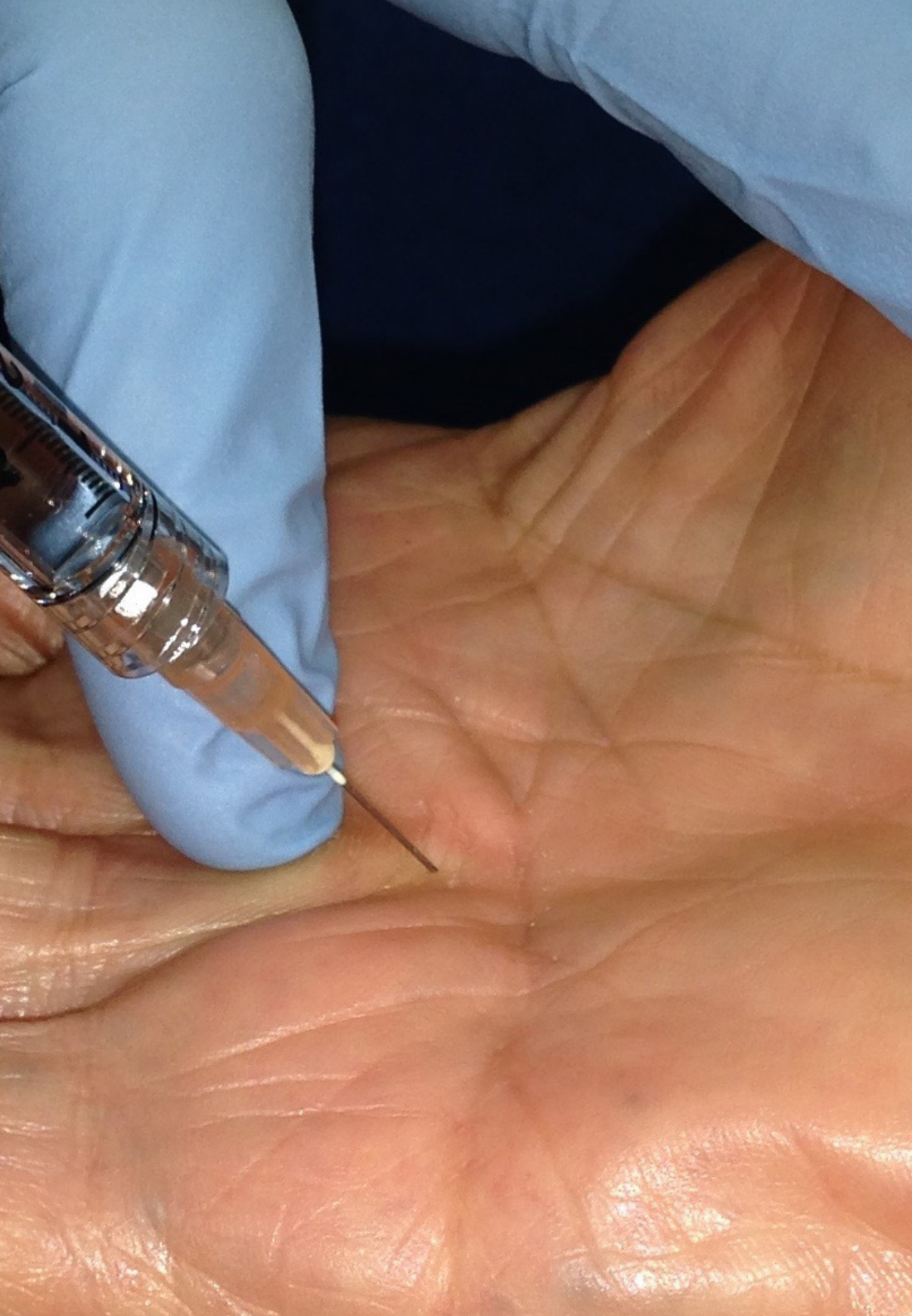
- ◆ Member of the reimplantation team of the CSUR center of the HUBU in catastrophic hand and upper limb reimplantation
- ◆ Member of the Sarcoma Treatment Unit of the Burgos Hospital Complex
- ◆ Member of the Head and Neck Tumor and Complex Pathology Treatment Unit of the Burgos Hospital Complex
- ◆ Graduate in Medicine and Surgery from the Complutense University of Madrid
- ◆ Master's Degree in Continuing Education in Aesthetic Medicine and Surgery from the European University Miguel de Cervantes

**Dr. García Espert, Carmen**

- ◆ Chief of Orthopedic Surgery and Traumatology Service at the Hospital de Manises
- ◆ Specialist in Traumatology and Orthopedic Surgery at the Hospital Universitario la FE in Valencia
- ◆ "Innervue Surgery Training at Southend Hospital (U.K.) with Dr. Packer
- ◆ Doctor by the Faculty of Medicine of the University of Valencia
- ◆ Degree in Medicine from the University of Valencia
- ◆ Member of: Scientific Committee of the Revista de Cirugía de la Mano de la Sociedad Española de Cirugía de la Mano (Spanish Society of Hand Surgery)







**Dr. Rizea, Christian**

- ◆ Resident tutor at Hospital Universitario La Paz, Madrid
- ◆ Degree in Medicine from the Complutense University of Madrid
- ◆ Fellow at Cleveland Clinic

**Dr. Álvarez Bautista, Cristina**

- ◆ Teacher in the National Arthroscopy Plan, organized by the Spanish Arthroscopy Association
- ◆ Postgraduate Certificate in Nursing from the University Alfonso X "El Sabio"
- ◆ Degree in Medicine from the University CEU San Pablo
- ◆ Master in Socio-Health Sciences

**Dr. Arribas Agüera, Daniel**

- ◆ Assistant Physician in Traumatology at Hospital de Palamós
- ◆ Assistant Physician in Traumatology at Hospital Dr Josep Trueta
- ◆ Teacher of MIR at the University Hospital Dr Josep Trueta of Girona
- ◆ Teacher in courses of the University of Girona
- ◆ Postgraduate in Health Services Management

**Dr. Gallach Sanchís, David**

- ◆ Specialist in Hand Surgery Unit
- ◆ Degree in Medicine and Surgery from the Faculty of Medicine and Dentistry of Valencia

**Dr. Gutiérrez Medina, David**

- ◆ Assistant of Orthopedic Surgery and Traumatology at Figueres Hospital
- ◆ Teacher in courses at the Faculty of Medicine of the University of Barcelona
- ◆ Graduate in Medicine from the University of Barcelona

#### **Dr. Noriego Muñoz, Diana**

- ♦ Specialist Physician at Hospital Fundació Salut Empordà since March
- ♦ Specialist Physician at the Hospital Universitari de Girona Dr Josep Trueta
- ♦ Medical Associate Lecturer at the Faculty of Medicine of the University of Girona
- ♦ Professor in Basic Courses in principles of fracture management by AO Trauma
- ♦ Doctor in Orthopedic Surgery and Traumatology by the Universitat de Girona
- ♦ Degree in Medicine from the Autonomous University of Barcelona
- ♦ UAB Postgraduate Certificate in "Cirurgia d'Espatlla i Colze"

#### **Dr. Vallejo Aparicio, Eduardo**

- ♦ Degree in Medicine from the Universidad Rey Juan Carlos
- ♦ Master in Clinical Medicine by UDIMA
- ♦ Member of: Spanish Society of Plastic, Aesthetic and Reconstructive Surgery, Society of Plastic, Aesthetic and Reconstructive Surgeons of Asturias, Cantabria and Castilla y León

#### **Dr. Nevado Sánchez, Endika**

- ♦ Coordinator of upper limb reimplantation through the national transplant organization
- ♦ Graduate in Medicine and Surgery from the University of the Basque Country
- ♦ Associate Professor at the University of Burgos
- ♦ Specialist in Aesthetic and Reconstructive Plastic Surgery
- ♦ Specialist in Hand Surgery
- ♦ Judicial Expert in valuation of bodily injury

#### **Mr. Dávila Fernández, Fernando**

- ♦ Medical specialist in the Hand, Peripheral Nerve and Ultrasound-guided Surgery Unit Sendagrup Associated Doctors
- ♦ Assistant Doctor in the Orthopedic Surgery and Traumatology Service of the Pakea Clinic of Mutualia
- ♦ Associate researcher in clinical trial: "A Multicenter, Open-label study of SI-6603 in Patients with Lumbar Disc Herniation (Phase III)"
- ♦ Associate researcher in clinical trial: A phase 2b, randomized, double-blind, placebo-controlled, study to evaluate the safety and efficacy of staphylococcus aureus 4-antigen (sa4ag) vaccine in adults undergoing elective posterior instrumented lumbar spinal fusion procedures
- ♦ Honorary Professor in the Faculty of Health Sciences at the Universidad Rey Juan Carlos, Madrid
- ♦ Degree in Medicine from the Complutense University of Madrid

#### **Dr. Muñoz, Francisca**

- ♦ Nurse in the Mutua ASEPEYO Health Care Center
- ♦ Nurse in ICU, Emergency and Operating Room
- ♦ Course teacher at ASEPEYO Corporate University
- ♦ Member of: Nursing Advisory Committee of the Spanish Society of Occupational Traumatology

#### **Dr. Vara Patudo, Isabel**

- ♦ Assistant Physician of the Orthopedic Surgery and Pediatric Traumatology Service of the Hospital Infantil Niño Jesús
- ♦ Assistant Physician of Pediatric Orthopedic Surgery and Traumatology at Hospital de Nens

- ♦ Assistant Physician of the Orthopedic and Traumatology Service of the Children's Orthopedic and Traumatology Service of the Hospital Sant Joan de Déu
- ♦ Medical Specialist in Orthopedic Surgery and Traumatology at Hospital Príncipe de Asturias
- ♦ Degree in Medicine from the University of Alcalá, Spain
- ♦ Professional Master's Degree in Children's Orthopedics by TECH Universidad Tecnológica
- ♦ Advanced Training Program in Pediatric Orthopedic Surgery and Traumatology of the SEOP Spanish Society of Pediatric Orthopedics

#### **Dr. González-Cuevas, Javier Fernández**

- ♦ Teacher in courses on Trauma for Pediatric Emergency and Plastic Surgery nurses
- ♦ Master's Degree in Advanced Care of Ulcers of the Lower Extremity
- ♦ Postgraduate Diploma in Surgical Anatomy of the Hand
- ♦ Degree in Medicine and Surgery, Faculty of Medicine, Oviedo University
- ♦ Member of: Spanish Society of Reconstructive and Aesthetic Plastic Surgery, Spanish Association of Senology and Breast Pathology, Society of Aesthetic and Reconstructive Plastic Surgeons of Asturias, Cantabria and Castilla-León, International Society of Plastic and Aesthetic Surgery and Spanish Association of Microsurgery

#### **Dr. Alfaro Micó, Joaquín**

- ♦ Area Specialist Physician at Hospital Quirón Salud Albacete
- ♦ Member of the teaching committee of Hospital General Albacete
- ♦ Master's Degree in Clinical and Medical Professionalism, Universidad de Alcalá, Spain
- ♦ Master's Degree in Update on Orthopedic Surgery and Traumatology. CEU Cardenal Herrera University
- ♦ Master's Degree in Clinical Management, Medical and Health Care Management. CEU Cardenal Herrera University

- ♦ Master in Traumatologic Emergencies by CEU Cardenal Herrera University
- ♦ Master's Degree in Hand Surgery from the International University of Andalusia
- ♦ Member of: Spanish Society of Orthopedic Surgery and Traumatology (SECOT), Castilian-La Mancha Society of Orthopedic Surgery and Traumatology (SCMCOT) and Spanish Society of Hand Surgery (SECMA)

#### **Dr. Felices Farias, José Manuel**

- ♦ Head of Residents at the Virgen de la Arrixaca University Hospital
- ♦ Associate Professor of Radiodiagnosis in the Degrees in Medicine and Dentistry at the Catholic University San Antonio of Murcia
- ♦ Honorary Collaborating Professor of the Department of Dermatology, Stomatology, Radiology and Physical Medicine of the Faculty of Medicine of the University of Murcia
- ♦ Doctor of Medicine, University of Murcia
- ♦ Master in Applied Clinical Anatomy, University of Murcia
- ♦ Degree in Medicine from the University of Murcia

#### **Dr. Sánchez González, José**

- ♦ Clinical Chief of the Upper Extremity Unit at Mataró Hospital
- ♦ Member of the Teaching Commission at Hospital de Mataró
- ♦ Specialist in the Traumatology and Sports Medicine Unit at the GEMA Clinic in Mataró
- ♦ Specialist in the Trauma Pathology and Shoulder Arthroplasty Unit
- ♦ Sports Traumatology Team at the Clínica Creu Blanca
- ♦ Specialist in Orthopedic and Trauma Surgery
- ♦ Teaching Collaborator at the Mataró Hospital Teaching Unit

- ♦ Member of: Catalan Society of COIT (SCCOT), Spanish Society of COT (SECOT) and Commission of tutors of residents of the Catalan Society of Orthopedic Surgery and Traumatology

**Dr. Berta Compte, Laia**

- ♦ Teacher in the Course of Surgical Emergencies at the Academia de Ciències Mèdiques de Girona
- ♦ Degree in Medicine and Surgery, Autonomous University of Barcelona

**Dr. Pérez López, Laura M**

- ♦ Physician in the Functional Unit of Upper Extremity and Congenital Pathology, in the Traumatology Unit and in the Arthroscopy Unit
- ♦ Referent of Pediatric Orthopedic Surgery and Traumatology at Clínica Diagonal (FIATC)
- ♦ Medical Specialist in Pediatric Orthopedic Surgery and Traumatology, belonging to the Dr. Terricabras team
- ♦ Doctor with International Mention and Honorary Degree in Medicine from the University of Barcelona
- ♦ Bachelor's Degree in Medicine from the University of Barcelona
- ♦ Postgraduate degree in Surgical Anatomy of the Locomotor System from the University of Barcelona
- ♦ Specialization in Orthopedic Surgery and Traumatology by Althaia

**Dr. Gimeno García-Andrade, María Dolores**

- ♦ Medical Director of Procion-Hathayama Medical Center
- ♦ Traumatology and Orthopedic Surgery Consultation Meditrafic
- ♦ Traumatology and Orthopedic Surgery Consultation at Vaguada Medical Center
- ♦ Traumatology and Orthopedic Surgery Consultation at Proción-Hathayama Medical Center

- ♦ Teacher and internship to MIR and students of the Complutense University of Madrid
- ♦ Teacher at the Hospital Clínico San Carlos
- ♦ Collaborator with the NGO Vicente Ferrer Foundation in Anantapur (India) with the RDT Project for the treatment of disability
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid

**Dr. Rayo Navarro, María Jesús**

- ♦ Assistant Physician of Orthopedic Surgery and Traumatology at the Hospital Francisco de Asis
- ♦ Assistant Doctor of Orthopedic Surgery and Traumatology at Hospital Universitario Príncipe de Asturias
- ♦ Doctor in the University Hospital of Getafe
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid

**Dr. Fernandes de Carvalho, Marcos Antonio**

- ♦ Specialist in Orthopedic Surgery and Traumatology at the Pediatric Hospital at CHUC
- ♦ Teaching Collaboration in Orthopedics at FMUC
- ♦ Graduate in Medicine at the Faculty of Medicine of the University of Coimbra
- ♦ Postgraduate degree in Sports Medicine from FMUC
- ♦ Master in Sports Medicine by FMUC (2015)
- ♦ Specialized Education in Orthopedics and Traumatology at the Centro Hospitalar e Universitário de Coimbra (CHUC)
- ♦ Member of: Portuguese Society of Orthopedics and Traumatology, Portuguese Society of Pediatric Orthopedics, European Society of Pediatric Orthopedics (EPOS), Upper Limb Study Group of EPOS and Portuguese Society of Hand Surgery

**Dr. Jiménez Fernández, María**

- ♦ Specialist in the Traumatology Area at Hospital Costa del Sol
- ♦ Clinical tutor at Hospital Costa del Sol, teaching practice and clinical activity to students of the Faculty of Medicine in Malaga
- ♦ Teacher of Traumatology courses
- ♦ PhD in Orthopedic Surgery and Traumatology from the University of Malaga
- ♦ Graduate in Medicine and Surgery from the University of Malaga
- ♦ University Master's Degree in Hip and Pelvis Pathology by UNIA

**Dr. Font Bilbeny, Mercé**

- ♦ Assistant Doctor of Orthopedic Surgery and Traumatology in the Upper Extremity Unit at the Hospital de Mataró
- ♦ Coordinator of assessments in Primary Care Continuity of Care
- ♦ Specialist in Orthopedic and Trauma Surgery
- ♦ Medical specialist of the Orthopedic Surgery and Traumatology of the Gabinete de Especialidades Médicas (GEMA)
- ♦ Teacher collaborator at the Teaching Unit of the Hospital de Mataró
- ♦ Action Guide and Protocols for referral from Primary Care to the Orthopedic Surgery and Traumatology Service of the Consorci Sanitari del Maresme
- ♦ Degree in Medicine and Surgery from the Universitat Autònoma de Barcelona
- ♦ Member of the Upper Extremity Unit of the Orthopedic Surgery and Traumatology Service of the Hospital de Mataró

**Dr. Pérez Abad, Miguel**

- ♦ Medical specialist in the Hand Unit of the Maresme Health Consortium of Mataró
- ♦ Physician at Institut Kaplan

- ♦ Medical Specialist in the Hand Unit of the San Joan de Deu Hospital in Manresa
- ♦ Resident tutor at Hospital San Joan de Deu Manresa
- ♦ Co-author of the book Dorsal capsulodesis for treatment of scapholunate injuries. Chapter 23 in: Operative techniques in Orthopaedic Surgery
- ♦ Graduate in Medicine and Surgery from the Universidad de Navarra
- ♦ PhD in Medicine and Surgery from the University of Barcelona

**Dr. Vanaclocha Saiz, María Nieves**

- ♦ Assistant Specialist in Plastic, Aesthetic and Reconstructive Surgery at the University and Polytechnic Hospital La Fe
- ♦ Second Assistant Surgeon in Cardiovascular Surgery at the St. Josefs-Hospital Wiesbaden
- ♦ Cooperative Campaign in the Reconstructive Surgery Project at the non-profit association Viva Makeni in Sierra Leone
- ♦ Doctor Cum Laude
- ♦ Applied Master in Quality of Care at the Universitat de Barcelona
- ♦ Master in Management and Organization of Hospitals and Health Services by the Polytechnic University of Valencia
- ♦ Member of: Sociedad Española de Cirugía Plástica, Estética y Reconstructiva (SECPRE) y Sociedad Valenciana de Cirugía Plástica, Reparadora y Estética (SCPREECV)

**Dr. Fernández Noguera, Nuria**

- ♦ Assistant Doctor of Orthopedic Surgery and Traumatology at the Hospital Univeristario de Girona Dr. Josep Trueta
- ♦ Doctor at Clínica Salus Banyoles
- ♦ Doctor at Clínica Girona
- ♦ Doctor at the Clínica Quirúrgica Onyar de Girona

- ♦ Assistant Doctor of Orthopedic Surgery and Traumatology at OSFIT Centre Mèdic
- ♦ Associate Professor at the Faculty of Medicine at the University of Girona
- ♦ Specialist in Orthopedic Surgery and Traumatology at the University Hospital of Girona "Dr Josep Trueta"
- ♦ Degree in Medicine from the Autonomous University of Barcelona
- ♦ Member of: SECOT y SECMA

#### **Dr. Diéguez Rey, Pablo**

- ♦ Specialist in Traumatology and Hand Surgery
- ♦ Graduated in Medicine from the University of Santiago de Compostela
- ♦ Teacher in the Ultrasound Course "Mánchate las manos"

#### **Dr. Aragonés Maza, Paloma**

- ♦ Specialist in Orthopedic and Trauma Surgery
- ♦ Specialist in Orthopedic Surgery and Traumatology at the University Hospital Santa Cristina
- ♦ Specialist in Orthopedic Surgery and Traumatology at the Santa Clotilde Hospital
- ♦ Specialist in Orthopedic Surgery and Traumatology at Hospital Universitario Getafe
- ♦ PhD in Medicine and Surgery from the Complutense University of Madrid
- ♦ Associate Professor Complutense University of Madrid
- ♦ Professor at Alfonso X El Sabio private university
- ♦ Teacher in multiple courses and postgraduate training for doctors, technicians and other health professions
- ♦ Member of: Spanish Anatomical Society and of the European Association of Clinical Anatomy, Spanish Society of Orthopedic Surgery and Reviewer and Associate editor of the European Journal of Anatomy

#### **Dr. Sierra García de Miguel, Paúl**

- ♦ Assistant Orthopedic Surgeon at Hospital ASEPEYO
- ♦ Medical Specialist at Dr. Gonzalez del Pino's Hand Institute
- ♦ Specialization in Hand and Upper Extremity Surgery at the Clínica Universidad de Navarra
- ♦ Specialization in Microsurgery at the Hospital Clínico San Carlos

#### **Dr. Maroto Rodríguez, Raquel**

- ♦ Assistant Specialist in Upper Limb Unit at Hospital de Mataró, Consorci Sanitari del Maresme
- ♦ Specialist in Reconstructive Hand Surgery and Microsurgery at ASST Gaetano Pini-CTO
- ♦ Teaching collaborator in FESSH Academy / Foundation Course
- ♦ Teaching collaborator at Universidad Autónoma de Madrid
- ♦ Teaching collaborator at the Hospital Universitario de la Princesa
- ♦ Master in Emergency Medicine at Centro de estudios de preparación al MIR (CTO) in Madrid
- ♦ Master in Clinical and Medical Professionalism at the Universidad de Alcalá de Henares

#### **Dr. Losa Palacios, Sergio**

- ♦ Medical Specialist of the Hand Surgery Unit of the Albacete University Hospital Complex
- ♦ Orthopedic Surgery and Traumatology Physician at the General Hospital of Villarrobledo
- ♦ Honorary teaching collaborator of the University of Albacete
- ♦ Master in Hand Pathology by the International University of Andalusia
- ♦ Master's Degree in Patient Safety and Health Care Quality, Universidad Miguel Hernández
- ♦ Master's Degree in Health Law, Universidad de Castilla-La Mancha
- ♦ Postgraduate Certificate in Hand Surgery from the Spanish Society of Hand Surgery
- ♦ Member of the Spanish Society of Hand Surgery

**Dr. Martínez Álvarez, Sergio**

- ♦ Head of the Pediatric Upper Extremity Unit at Beata María Ana Hospital
- ♦ Medical Specialist in the Orthopedic Surgery and Traumatology Service of the Hospital Niño Jesús
- ♦ Medical Specialist in Orthopedic Surgery and Traumatology Hospital Universitario de la Princesa
- ♦ Medical collaboration with Texas Scottish Rite Hospital
- ♦ Medical collaboration with Boston Children's Hospital
- ♦ Medical Collaboration with Cincinnati Children's Hospital
- ♦ Medical Collaboration with Children's National Medical Center Washington
- ♦ Medical collaboration with Atlanta Children's Hospital
- ♦ RECOT, JBJS and RICMA Reviewer
- ♦ Members of the European Pediatric Orthopedic Society

**Dr. Fernández Rodríguez, Tomás**

- ♦ Ultrasound Specialist at the Hospital San Francisco de Asis
- ♦ Outpatient Emergency Physician at the SAR de Mejorada del Campo
- ♦ Teacher collaborator at the University Camilo José Cela in programs of the faculties of Nursing and Physiotherapy
- ♦ Member of the Working Group on Ultrasound SEMERGEN

**Dr. Sánchez López, Amalia**

- ♦ Madrid Rehabilitation Physician at Hospital Quirón de Talavera de la Reina
- ♦ Specialist in Physical Medicine and Rehabilitation at the Jiménez Díaz Foundation Hospital
- ♦ Degree in Medicine from the University of Salamanca Academic Formation

**Dr. Ortega Carnero, Álvaro**

- ♦ Master's degree in integration of medical knowledge and its application to clinical problem solving
- ♦ Degree in Medicine

**Dr. Mena Rosón, Araceli**

- ♦ Specialist in Traumatology at the Hospital Universitario Príncipe de Asturias
- ♦ Author of numerous publications in scientific journals
- ♦ Speaker at congresses related to his specialty

**Dr. Casañas Sintés, Joaquim**

- ♦ Head of the Brachial Plexus and Microsurgery Unit in Pediatrics Hospital Sant Joan de Deu
- ♦ Director of the Hand, Peripheral Nerve, Brachial Plexus and Microsurgery Unit at Hospital Universitari de Bellvitge
- ♦ Director of the Traumatology Unit at Centro Medico Teknon
- ♦ Physician at the Hospital de Andorra Nostra Senyora de Meritxell
- ♦ Doctor at the Hospital Universitari de Bellvitge
- ♦ Teacher at the Universities of Barcelona, Catalunya and Gimbernat
- ♦ Degree in Medicine and Surgery from the University of Barcelona
- ♦ European Accreditation as a Hand Surgeon by the Federation European Societies Surgery of Hand (FESSH)
- ♦ Postgraduate Certificate in Integrated Health Systems ESADE (Health Management)
- ♦ Co-director of the National Wrist Arthroscopy Program for the AEM

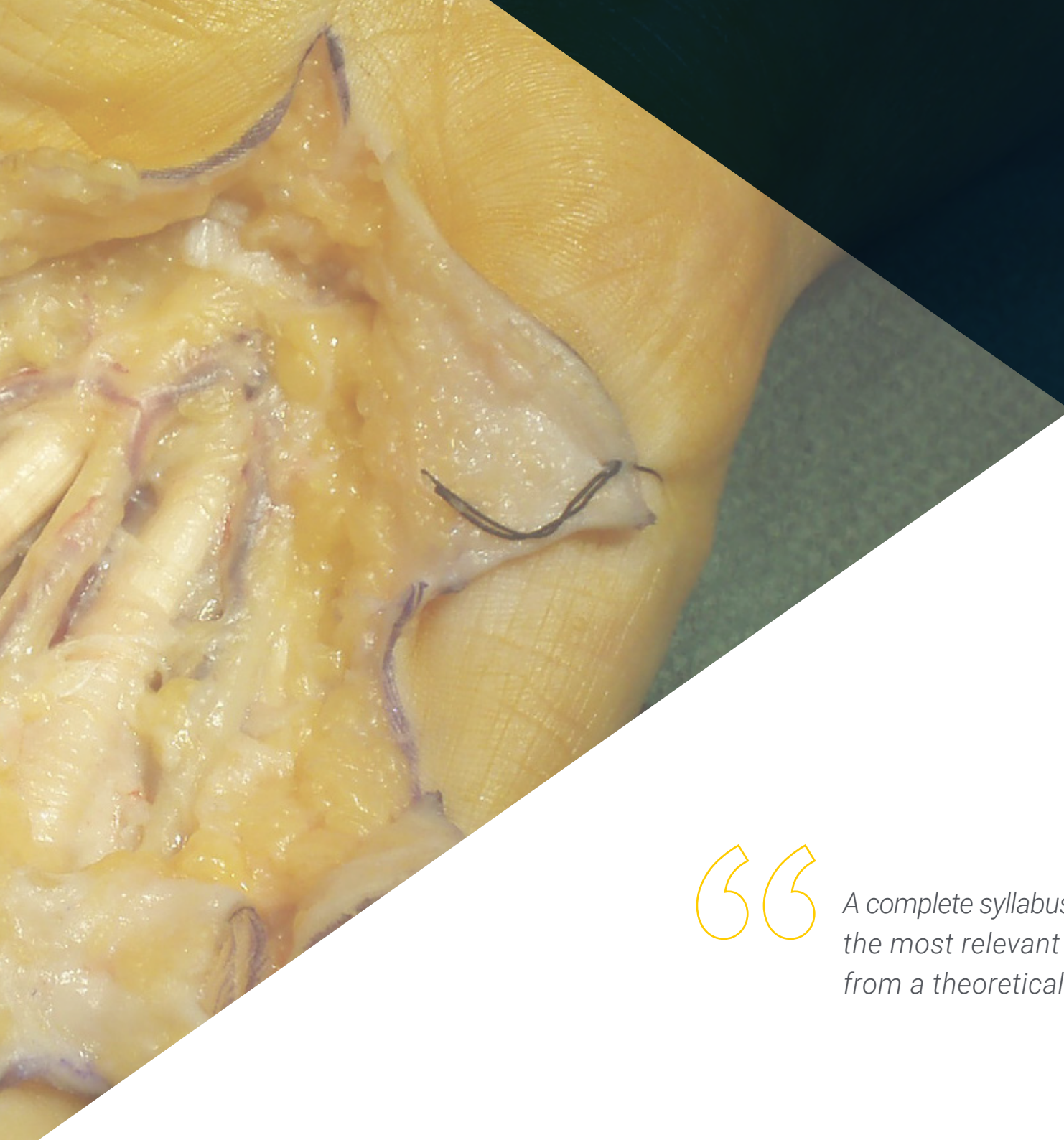
# 05

# Structure and Content

The syllabus of this Professional Master's Degree has been designed to delve, in a methodical and orderly manner, into all aspects of Hand Surgery. Therefore, the specialist will analyze from the most frequent pathologies to the less common ones in clinical practice. All this, in addition, with an enriching multimedia didactic material, which provides a greater dynamism and attractiveness to this updating process. Furthermore, the graduate will be able to access these resources easily from any digital device with internet connection, 24 hours a day.







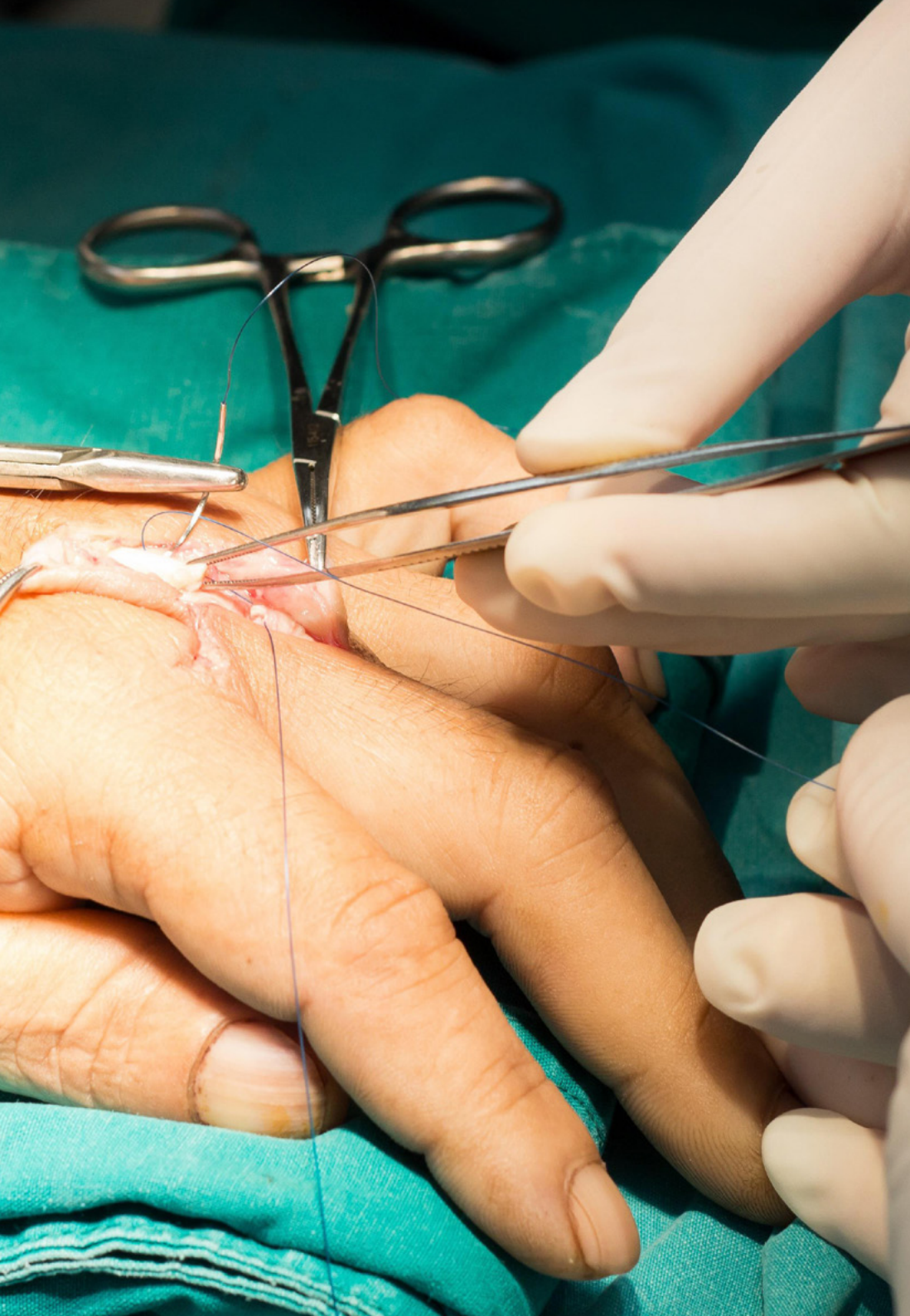
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*A complete syllabus to keep you up-to-date with the most relevant advances in Hand Surgery from a theoretical-practical perspective"*

**Module 1.** Basic sciences applied to hand and upper extremity surgery.  
Methodology. Rehabilitation

- 1.1. History of Hand Surgery. Progress in the XXI century
  - 1.1.1. From Ancient Times to the Modern Age
  - 1.1.2. Contemporary Age. Discovery and changes
  - 1.1.3. From 1950 to the present day. Progress in the XXI Century
- 1.2. Biology and physiology in relation to hand surgery. Tissue healing
  - 1.2.1. Classification and clinical classification of hand wounds
  - 1.2.2. Physiology: healing and epithelialization
  - 1.2.3. Scar pathology
- 1.3. Embryology and genetics in hand surgery. Malformations
  - 1.3.1. Early stages of development of the upper extremity. Genes involved
  - 1.3.2. Growth and rotation of the outlines. Fragmentation process
  - 1.3.3. Formation of the skeleton, musculature and appendicular joints
  - 1.3.4. Vascularization and innervation of the developing limbs
  - 1.3.5. Classification of congenital malformations of the upper extremity
- 1.4. Anatomy I in Hand Surgery. Functions and Biomechanics
  - 1.4.1. Topography
  - 1.4.2. Skin and fibrous skeleton
  - 1.4.3. Bone and ligamentous skeleton
  - 1.4.4. Functions and biomechanics
- 1.5. Anatomy II in Hand Surgery. Approaches
  - 1.5.1. Musculature
  - 1.5.2. Vascularization
  - 1.5.3. Sensory innervation
  - 1.5.4. Main approaches in hand surgery
- 1.6. Ultrasound applied to hand surgery
  - 1.6.1. Objectives
  - 1.6.2. Basic principles of ultrasound
  - 1.6.3. Ultrasound diagnostic pathology in wrist and hand
    - 1.6.3.1. Dorsal side
    - 1.6.3.2. volar side
  - 1.6.4. Bone and Joint Pathology





- 1.7. Magnetic Resonance Imaging applied to hand surgery. Nuclear Medicine
  - 1.7.1. Wrist and hand radiography
  - 1.7.2. CT in Hand Surgery. Diagnostic Applications
  - 1.7.3. MRI in Hand Surgery
- 1.8. Anesthesiology applied to Hand Surgery. Walant Technique
  - 1.8.1. Walant. Preparation
  - 1.8.2. Use of the Walant in Hand Surgery
  - 1.8.3. The Yes and No to the Walant
- 1.9. Rehabilitation: orthoses and basic principles in hand rehabilitation
  - 1.9.1. Principles of Rehabilitation in Hand Surgery. Evaluation and therapeutic approach
  - 1.9.2. Treatments with physiotherapy, electrotherapy and occupational therapy
  - 1.9.3. Orthoses
- 1.10. Clinical Research in Hand Surgery: Study Population, Clinical Designs, Instruments and Measurements, and Data Analysis
  - 1.10.1. Types of Clinical Studies
  - 1.10.2. Design errors in clinical studies
  - 1.10.3. Level of evidence
  - 1.10.4. Diagnostic test statistics

## Module 2. Hand Skin, Soft Parts and Infections

- 2.1. Wounds and types of healing. Sutures. Skin grafts
  - 2.1.1. Hand wounds and types of sutures
  - 2.1.2. Types of healing
  - 2.1.3. Skin Grafts
- 2.2. Basics of the vascular anatomy of the hand applied to the realization of flaps
  - 2.2.1. Vascular anatomy of the hand
  - 2.2.2. Pedicle Flaps
  - 2.2.3. Grafts, from where and for where
- 2.3. Complex Wound Management
  - 2.3.1. Initial Assessment
  - 2.3.2. Evolution of the event
  - 2.3.3. Advanced Cure Systems

- 2.4. Microsurgery
  - 2.4.1. Basics of microsurgery on the hand
  - 2.4.2. Microsurgical suturing of nerves and vessels
  - 2.4.3. Use of microsurgery for flaps
- 2.5. Reimplantation. Fingertip coverage
  - 2.5.1. Reimplants except thumb
  - 2.5.2. Fingertip coverage except for the thumb
  - 2.5.3. Reimplantation on the thumb, thumb tip coverage
- 2.6. Skin coverage with pedicled and free flaps on wrist and hand
  - 2.6.1. Pedicle flaps on the Wrist
  - 2.6.2. Pedicled flaps in hand
  - 2.6.3. Free flaps in hand and Wrist
- 2.7. Reconstruction of the Hand by Composite Free Flaps
  - 2.7.1. Neurocutaneous Flaps
  - 2.7.2. Osteocutaneous Flaps
  - 2.7.3. Toe-Hand
- 2.8. Infections of the hand. Cellulitis, tenosynovitis, arthritis, osteomyelitis
  - 2.8.1. Cellulitis
  - 2.8.2. Tenosynovitis
  - 2.8.3. Arthritis and osteomyelitis
- 2.9. Burns
  - 2.9.1. The acute burned hand: initial treatment
  - 2.9.2. Initial surgery in the burned hand
  - 2.9.3. Secondary surgeries and sequelae
- 2.10. High Pressure Injections and Extravasation Lesions
  - 2.10.1. High pressure injections in the hand
  - 2.10.2. Extravasation injuries
  - 2.10.3. High pressure sequelae

### Module 3. Fractures and joint dislocations Wrist-Hand. Conservative and Surgical Treatment. Sequels

- 3.1. Distal radius fractures. Conservational Treatment
  - 3.1.1. Classification
  - 3.1.2. Diagnostic Methods. Clinical and radiological
  - 3.1.3. Instability criteria
  - 3.1.4. Associated injuries
  - 3.1.5. Conservative Treatment
- 3.2. Fractures of the distal radius Surgical Treatment
  - 3.2.1. Percutaneous needles
  - 3.2.2. Internal Fixation
  - 3.2.3. External fixation
  - 3.2.4. Arthroscopy
- 3.3. Complications of distal radius fracture
  - 3.3.1. Associated with conservative treatment
  - 3.3.2. Associated with internal fixation
  - 3.3.3. Associated with external fixation
  - 3.3.4. Associated with arthroscopy
- 3.4. Distal radioulnar joint instability
  - 3.4.1. Anatomy and Biomechanics
  - 3.4.2. Diagnosis and classifications
  - 3.4.3. Acute treatment methods
  - 3.4.4. Palliative surgical treatment
- 3.5. Scaphoid Fractures
  - 3.5.1. Anatomy and vascularization
  - 3.5.2. Fracture types. Classification
  - 3.5.3. Conservative Treatment
  - 3.5.4. Surgical Management
- 3.6 Pseudarthrosis of the scaphoid. Surgical Treatment. Sequels
  - 3.6.1. Radiological diagnosis and CT
  - 3.6.2. Surgical Management
  - 3.6.3. Sequels

- 3.7. Other fractures and dislocations of the carpus
  - 3.7.1. Carpal bone fractures
  - 3.7.2. Fractures carpal dislocations
  - 3.7.3. Surgical treatment methods
  - 3.7.4. Complications
- 3.8. Carpal instability
  - 3.8.1. Scapholunate Instability
  - 3.8.2. Lunopyramidal instability
  - 3.8.3. Other instabilities
- 3.9. The SNAC Wrist
  - 3.9.1. Classification
  - 3.9.2. Clinical and radiological diagnosis
  - 3.9.3. Surgical Procedures
- 3.10. The SLAC Wrist
  - 3.10.1. Classification
  - 3.10.2. Clinical and radiological diagnosis
  - 3.10.3. Surgical Procedures

#### Module 4. Finger Fractures and Dislocations Conservative and surgical treatment. Sequelae. Wrist Arthroscopy

- 4.1. Phalangeal Fractures
  - 4.1.1. Patterns of phalangeal fractures. Classification
  - 4.1.2. Criteria for instability of phalangeal fractures
  - 4.1.3. Conservative Treatment
  - 4.1.4. Surgical Management
  - 4.1.5. Complications
- 4.2. Traumatic periungual lesions
  - 4.2.1. Levels of injury
  - 4.2.2. Emergency actions
  - 4.2.3. The best treatment
  - 4.2.4. Sequelae and their treatment

- 4.3. Metacarpal fractures except for the thumb
  - 4.3.1. Metacarpal fracture patterns except thumb. Classification
  - 4.3.2. Criteria for instability of metacarpal fractures except thumb
  - 4.3.3. Conservative Treatment
  - 4.3.4. Surgical Management
  - 4.3.5. Complications
- 4.4. Metacarpal and phalangeal fractures of the thumb
  - 4.4.1. Fracture patterns
  - 4.4.2. Radiological Diagnosis
  - 4.4.3. Conservative Treatment
  - 4.4.4. Surgical Management
  - 4.4.5. Complications
- 4.5. Interphalangeal and metacarpo-phalangeal instability in the thumb
  - 4.5.1. Ligamentous Anatomy
  - 4.5.2. Classification
  - 4.5.3. Conservative Treatment
  - 4.5.4. Surgical Management
- 4.6. Consolidation defects. Conservative and Surgical Management
  - 4.6.1. Diagnostic Techniques
  - 4.6.2. Conservative Management
  - 4.6.3. Surgical Treatment
- 4.7. Ligamentous Lesions and Instabilities in Metacarpophalangeal and Interphalangeal Joints
  - 4.7.1. Ligamentous Anatomy
  - 4.7.2. Classification
  - 4.7.3. Conservative Treatment
  - 4.7.4. Surgical Management
- 4.8. Wrist arthroscopy I. Portals and anatomy
  - 4.8.1. Arthroscopic portals
  - 4.8.2. Radiocarpal and Midcarpal Anatomy
  - 4.8.3. Other Explorations
  - 4.8.4. Step by step arthroscopic exploration
  - 4.8.5. Wrist arthroscopy complications

- 4.9. Wrist arthroscopy II. Surgical Techniques
  - 4.9.1. Identification and classification of ligamentous injuries
  - 4.9.2. Arthroscopic treatment of scapholunate and lunopyramidal lesions
  - 4.9.3. Arthroscopic treatment of Wrist ganglions
  - 4.9.4. Arthroscopic treatment of triangular fibrocartilage lesions
  - 4.9.5. Treatment of ulnocarpal impingement
- 4.10. Wrist arthroscopy III. Surgical Techniques
  - 4.10.1. Arthroscopic treatment of distal radius fractures
  - 4.10.2. Arthroscopic treatment of carpal scaphoid fractures
  - 4.10.3. Arthroscopic technique partial arthrodesis of the wrist and proximal carpectomy
  - 4.10.4. Arthroscopy in small joints and trapeziometacarpal

## Module 5. Inflammatory Arthritis and Degenerative Arthrosis of the Wrist and Hand. Conservative and Surgical Treatment. Evidence

- 5.1. Clinical examination and basic differential diagnosis in arthropathies of the wrist and hand
  - 5.1.1. Etiology of degenerative pathology of the wrist and hand
  - 5.1.2. Clinical examination and complementary diagnostic tests
  - 5.1.3. Overview and differential diagnosis of Wrist and hand joint pain. Specific Characteristics
- 5.2. Arthrosis of the fingers and carpometacarpal joints, except the thumb. Therapy Options
  - 5.2.1. Metacarpophalangeal arthrosis (excluding the thumb). Etiology, Diagnosis and Treatment
  - 5.2.2. Proximal interphalangeal arthrosis. Etiology, Diagnosis and Treatment
  - 5.2.1. Distal interphalangeal osteoarthritis. Etiology, Diagnosis and Treatment
- 5.3. Rizarthrosis. Assessment, classification and conservative treatment
  - 5.3.1. Anatomy and Physiopathology
  - 5.3.2. Diagnosis. Symptoms and clinical examination. Complementary Tests. Classification
  - 5.3.3. Conservative Treatment
- 5.4. Rizarthrosis. Surgical Management
  - 5.4.1. Suspension arthroplasty. Advantages and Disadvantages. Surgeon's preferences
  - 5.4.2. Replacement arthroplasty
  - 5.4.3. Arthrodesis of the trapeziometacarpal joint
- 5.5. Scapho-trapeziometacarpal (STT) arthrosis. Assessment and therapeutic options
  - 5.5.1. Degenerative causes of STT. Primary or secondary involvement
  - 5.5.2. Clinic and diagnosis of osteoarthritis STT
  - 5.5.3. Surgical techniques indicated for STT joint involvement
- 5.6. Treatment of carpal osteoarthritis. Arthrodesis, arthroplasty and other options
  - 5.6.1. Degenerative changes of the carpus. Etiology, classification and diagnosis
  - 5.6.2. Four corner arthrodesis. Proximal Carpectomy. Total wrist arthrodesis
  - 5.6.3. Wrist replacement arthroplasty. Capsular Denervation
- 5.7. Degenerative pathology of the triangular fibrocartilage
  - 5.7.1. Anatomy and Physiopathology
  - 5.7.2. Etiology of triangular fibrocartilage lesions. Diagnosis
  - 5.7.3. Treatment and prognosis of triangular fibrocartilage lesions
- 5.8. Kienböck's disease. Pathophysiology, diagnosis, classification and treatment
  - 5.8.1. Anatomy and pathophysiology of Kienböck's disease
  - 5.8.2. Clinical examination and diagnostic tests. Classification
  - 5.8.3. Conservative treatment vs. surgical treatment
- 5.9. Surgical treatment of rheumatoid arthritis in the hand: synovectomies, plastias, arthroplasties and arthrodesis
  - 5.9.1. Synovectomies and plasties in the rheumatoid hand. Indications and Results
  - 5.9.2. Hand and wrist replacement arthroplasty in rheumatoid arthritis
  - 5.9.3. Arthrodesis in the rheumatoid hand. Indications and Results
- 5.10. Similarities and differences in surgical treatment of rheumatoid arthritis and other inflammatory arthropathies: lupus erythematosus, microcrystal deposition diseases
  - 5.10.1. Hand and wrist deformities in systemic lupus erythematosus. Therapeutic Techniques
  - 5.10.2. Microcrystal deposition diseases. Differential diagnosis and treatment of choice
  - 5.10.3. Differences and similarities in the treatment of inflammatory diseases

## Module 6. Tendon Injuries of the Hand

- 6.1. Anatomy and Biomechanics of the Extensor Tendons and Flexor Tendons
  - 6.1.1. Anatomy of the extensor tendons
  - 6.1.2. Anatomy of the flexor tendons
  - 6.1.3. Biomechanics of the extensor tendons
  - 6.1.4. Biomechanics of the flexor tendons
- 6.2. Intra and Extrasynovial Vascularization. Pathophysiology of Tendon Repair
  - 6.2.1. Vascularization of flexor tendons
  - 6.2.2. Vascularization of extensor tendons
  - 6.2.3. Pathophysiology of tendon repair
- 6.3. Stenosing tenosynovitis of flexor tendons
  - 6.3.1. Stenosing tenosynovitis of flexors. Diagnosis and Prognosis
  - 6.3.2. Stenosing tenosynovitis of flexors. Conservative treatment. Rehabilitation
  - 6.3.4. Stenosing tenosynovitis of flexors. Surgical Management
- 6.4. Extensor Tendinopathies. Clinical and ultrasound diagnosis. Surgical Management
  - 6.4.1. Clinical diagnosis of extensor tendinopathies
  - 6.4.2. Ultrasound in the best diagnosis and therapeutic orientation
  - 6.4.3. Surgical Management
  - 6.4.4. Conservative treatment of extensor tendinopathies. Ultrasound assistance
  - 6.4.5. Surgical treatment of extensor tendinopathies. Ultrasound assistance
- 6.5. Flexor tendon ruptures. Treatment in acute and chronic phase
  - 6.5.1. Flexor tendon rupture and prognosis according to zone
  - 6.5.2. Flexor tendon rupture diagnosis. Treatment in acute phase
  - 6.5.3. Flexor tendon rupture diagnosis. Treatment in chronic phase
- 6.6. Extensor tendon ruptures. Treatment in acute and chronic phase
  - 6.6.1. Flexor tendon rupture and prognosis according to zone
  - 6.6.2. Flexor tendon rupture diagnosis. Treatment in acute phase
  - 6.6.3. Flexor tendon rupture diagnosis. Treatment in chronic phase
- 6.7. Sutures. Types and Forms. Tension. Scientific Evidence
  - 6.7.1. Sutures, types and materials
  - 6.7.2. Tension according to type of sutures. Available evidence
  - 6.7.3. Applications according to cases of the different sutures

- 6.8. Rehabilitation Protocols
  - 6.8.1. Rehabilitation of flexor tendon ruptures treated in acute phase
  - 6.8.2. Rehabilitation of extensor tendon ruptures treated in the acute phase
  - 6.8.3. Rehabilitation of extensor tendon ruptures treated in the acute phase
- 6.9. Complications in extensor ruptures. Diagnosis and Treatment Repair Techniques
  - 6.9.1. Complications of extensor tendon ruptures. Diagnosis. How to predict them
  - 6.9.2. Surgical treatment of these complications
  - 6.9.3. Postoperative rehabilitation after surgical resolution of the complication
- 6.10. Complications in flexor ruptures. Diagnosis and Treatment Repair Techniques
  - 6.10.1. Complications of flexor tendon ruptures. Diagnosis. How to predict them
  - 6.10.2. Surgical treatment of these complications
  - 6.10.3. Postoperative rehabilitation after surgical resolution of the complication

## Module 7. Nerve and Brachial Plexus Injuries

- 7.1. Clinical Exam. Electrophysiological diagnosis of peripheral nerve and brachial plexus
  - 7.1.1. Anamnesis and clinical nerve examination
  - 7.1.2. Electrophysiological techniques
  - 7.1.3. Interpretation of neurophysiological results
- 7.2. Compressive lesions of the ulnar nerve
  - 7.2.1. Distribution, exploration and definition of the areas of innervation of the ulnar nerve
  - 7.2.2. Compression areas of the ulnar nerve. Functional Alterations
  - 7.2.3. Conservative treatment and nerve decompression techniques
- 7.3. Compressive lesions of the median nerve
  - 7.3.1. Distribution, exploration and definition of the areas of innervation of the median nerve
  - 7.3.2. Compression areas of the median nerve. Functional Alterations
  - 7.3.3. Conservative treatment and nerve decompression techniques
- 7.4. Compressive lesions of the radial nerve. Other compressive injuries in wrist and hand. Thoracic gorge
  - 7.4.1. Distribution, exploration and definition of the areas of innervation of the radial nerve
  - 7.4.2. Areas of compression of the radial nerve. Functional Alterations
  - 7.4.3. Conservative treatment and nerve decompression techniques
  - 7.4.4. Other compressive lesions. Thoracic gorge syndrome

- 7.5. Peripheral nerve palsy and palliative tendon surgery
  - 7.5.1. Indications for tendon transfer. Sequence of the procedure
  - 7.5.2. Tendon transfers for ulnar nerve palsy
  - 7.5.3. Tendon transfers for median nerve palsy
  - 7.5.4. Tendon transfers for radial nerve palsy
- 7.6. Nerve repair techniques
  - 7.6.1. Neuroanatomy. General principles of nerve repair
  - 7.6.2. Neurolysis and nerve transposition
  - 7.6.3. Terminoterminal neurorrhaphy: epineural, perineural or fascicular, epiperineural
  - 7.6.4. Nerve transfer (neurotization)
  - 7.6.5. Nerve grafts. Types of Grafts: Results
  - 7.6.6. Tubulization. Indications, techniques, results
- 7.7. Principle of nerve repairs: timing, tension, debridement, technique, strategy
  - 7.7.1. Ideal timing for nerve repair. Nerve repair vs. Nerve replacement
  - 7.7.2. Nerve repair surgery. Characteristics and Techniques
  - 7.7.3. Nerve pathology surgery. Practical know-how
  - 7.7.4. Pre- and post-surgical strategy. Medium and long term prognosis
- 7.8. Principle of nerve transfers. Nerve transfers of paralysis. Supercharge concept
  - 7.8.1. Neurophysiological and technical principles of nerve transfers
  - 7.8.2. Types of nerve transfers of paralysis
  - 7.8.3. Supercharge technique. Concept, technique, results
- 7.9. Brachial plexus injuries. Strategy and management. Management of BPP
  - 7.9.1. Brachial plexus injuries. Congenital and traumatic
  - 7.9.2. Therapeutic strategy and management
  - 7.9.3. Management of BPP
- 7.10. Spasticity and lesions of the central nervous system. Surgery of tetraplegia
  - 7.10.1. Central nervous system lesions and spasticity clinic
  - 7.10.2. Therapeutic strategy of the tetraplegic patient
  - 7.10.3. Results and prognosis in the medium and long term

## Module 8. Pediatric Upper Member

- 8.1. Agenesis and Transverse Defects
  - 8.1.1. Description of agenesis and central defects
  - 8.1.2. Associated syndromes and the complementary studies that allow their diagnosis
  - 8.1.3. Types of agenesis and central defects
  - 8.1.4. Treatment options for agenesis and central defects
- 8.2. Radial longitudinal deficiency. Hypoplasias and Agenesis of the Thumb
  - 8.2.1. Radial longitudinal deficiency. Epidemiology
  - 8.2.2. Radial longitudinal deficiency. Association with other pathologies
  - 8.2.3. Radial longitudinal deficiency. Treatment
  - 8.2.4. Hypoplasias and agenesis of the thumb. Spectrum of affectation and association to other pathologies
  - 8.2.5. Hypoplasias and agenesis of the thumb. Blauth classification
  - 8.2.6. Hypoplasias and agenesis of the thumb. Treatment according to Blauth's classification
- 8.3. Ulnar Longitudinal Deficiency. Proximal Radioulnar Synostosis
  - 8.3.1. Ulnar Longitudinal Deficiency. Incidence
  - 8.3.2. Ulnar Longitudinal Deficiency. Indications and treatment options
  - 8.3.3. Proximal radioulnar radioulnar synostosis. Incidence and inheritance
  - 8.3.4. Proximal radioulnar radioulnar synostosis. Indications and types of surgical treatment
- 8.4. Pre-axial and Post-axial Polydactyly
  - 8.4.1. Preaxial polydactyly. Incidence
  - 8.4.2. Preaxial polydactyly. Wassel's classification
  - 8.4.3. Preaxial polydactyly. Treatment, goals and surgical options
  - 8.4.4. Postaxial polydactyly. Incidence
  - 8.4.5. Postaxial polydactyly. Classification
  - 8.4.6. Postaxial polydactyly. Conservative and surgical treatment options
- 8.5. Syndactyly. Macrodactyly. Clinodactyly. Camptodactyly. Kirner's Deformity
  - 8.5.1. Syndactyly. Incidence. Types. Cutaneous plastias
  - 8.5.2. Macrodactyly. Classification. Surgical Options
  - 8.5.3. Clinodactyly. Definition. Indication and surgical options
  - 8.5.4. Camptodactyly. Definition. Indication and treatment options
  - 8.5.5. Kirner's deformity. Definition. Indication and therapeutic management

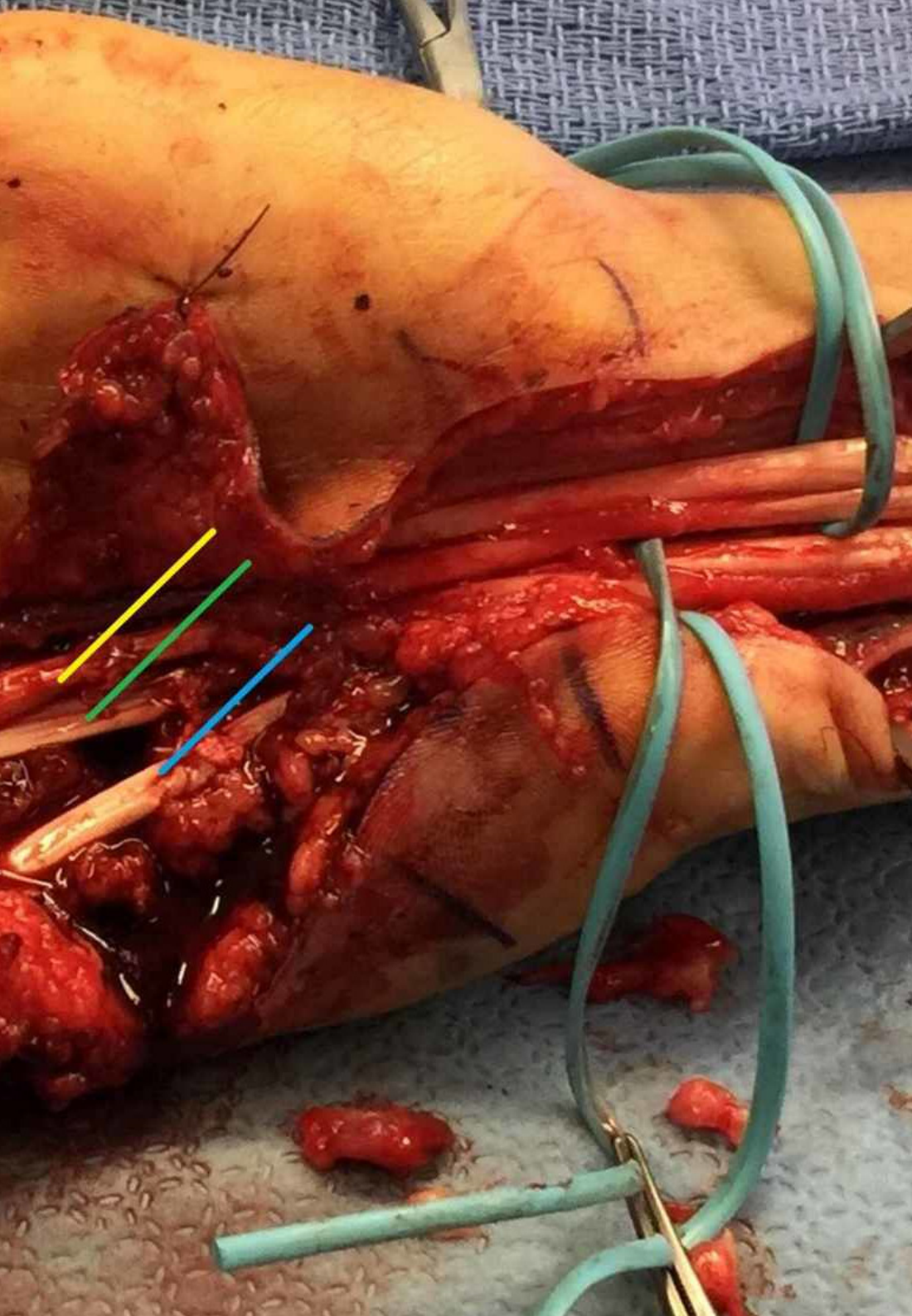


- 8.6. Amniotic Band Syndrome
    - 8.6.1. Definition. Incidence
    - 8.6.2. Differential Diagnosis
    - 8.6.3. Surgical Options
  - 8.7. Madelung's Deformity
    - 8.7.1. Madelung's deformity. Causes. Epidemiology
    - 8.7.2. Diagnostic Tests
    - 8.7.3. Types of surgical intervention according to skeletal maturity
  - 8.8. Arthrogyrosis of the upper limb
    - 8.8.1. Arthrogyrosis of the upper limb. Definition, disease?
    - 8.8.2. Etiopathogenesis
    - 8.8.3. Objectives and conservative therapeutic options, Surgical?
  - 8.9. Obstetric Brachial Palsy
    - 8.9.1. Anatomy of the plexus for the management of BPP
    - 8.9.2. Diagnosis of a PBO lesion
    - 8.9.3. Surgical indication for plexus reconstruction and palliative surgeries
  - 8.10. Tumors Affecting the Pediatric Hand: Osteochondromatosis, Enchondromatosis and Soft Tissue Tumors
    - 8.10.1. Osteochondromatosis. Diagnosis. Treatment
    - 8.10.2. Chondromatosis. Diagnosis. Treatment
    - 8.10.3. Soft tissue tumors. Types. Diagnosis. Treatment Management
- Module 9. Dupuytren's Disease, Tumors and Vascular Diseases**
- 9.1. Dupuytren's disease. Homid diagnosis
    - 9.1.1. Epidemiology
    - 9.1.2. Anatomy of the Palmar Aponeurosis and Anatomy of the Digital Cords
      - 9.1.2.1. Clinical, Diagnosis: Classification
    - 9.1.3. Extra-Palmar Locations
  - 9.2. Dupuytren's disease. Evolution
    - 9.2.1. Relapse
    - 9.2.2. Non-Surgical Treatment
    - 9.2.3. Progression
  - 9.3. Dupuytren's disease surgical treatment
    - 9.3.1. Indications for surgical treatment
    - 9.3.2. Indications. Timing and surgical techniques
    - 9.3.3. Factors influencing long-term results
  - 9.4. Dupuytren's disease. Surgical Planning
    - 9.4.1. Surgical Planning. Incisions
    - 9.4.2. Zetaplasty Modalities
    - 9.4.3. Rehabilitation
  - 9.5. Treatment failures in Dupuytren's disease
    - 9.5.1. Complications of surgical treatment
    - 9.5.2. Recurrence
    - 9.5.3. Sequels
  - 9.6. Vascular pathology in the hand
    - 9.6.1. Hypotenar Hammer Syndrome, Raynaud's disease
    - 9.6.2. Vascular Tumours
    - 9.6.3. Vascular Malformations
  - 9.7. Benign Soft Tissue Tumors
    - 9.7.1. Classification of the most frequent tumors
    - 9.7.2. When to do surgery. Biopsy?
    - 9.7.3. Results and complications
  - 9.8. Nerve Tumors
    - 9.8.1. Classification of the most common tumors
    - 9.8.2. When to operate and how
    - 9.8.3. Results and complications
  - 9.9. Benign Bone Tumors. Pseudotumorous lesions
    - 9.9.1. Classification
    - 9.9.2. When to operate and how
    - 9.9.3. Results and complications
  - 9.10. Malignant Tumors of Soft Parts and Bones
    - 9.10.1. Classification
    - 9.10.2. Surgical Management
    - 9.10.3. Results and complications

## Module 10. Advances in Hand Surgery. Other Lesions

- 10.1. Ultrasound Applications in Wrist Surgery
  - 10.1.1. Ultrasound anatomy of the wrist
  - 10.1.2. Ultrasound-guided interventionism in the wrist
  - 10.1.3. Ultrasound-guided surgery
- 10.2. Applications of Ultrasound in Hand Surgery
  - 10.2.1. Ultrasound anatomy of the hand
  - 10.2.2. Ultrasound-guided interventionism in the hand
  - 10.2.3. Ultrasound-guided hand surgery
- 10.3. Wrist and hand injuries specific to musicians. Conservative and surgical treatment
  - 10.3.1. Wrist and carpal injuries in musicians
  - 10.3.2. Finger injuries in musicians
  - 10.3.3. Conservative and surgical treatment
- 10.4. Wrist and hand injuries specific to climbers. Conservative and surgical treatment
  - 10.4.1. Wrist and carpal injuries in climbers
  - 10.4.2. Finger injuries in climbers
  - 10.4.3. Conservative and surgical treatment
- 10.5. Specific injuries in certain manual workers
  - 10.5.1. Wrist injuries in the workplace
  - 10.5.2. Hand injuries in the workplace
  - 10.5.3. Conservative treatment vs. Surgical
- 10.6. Total Wrist Arthroplasty
  - 10.6.1. Indications for Total Wrist Arthroplasty
  - 10.6.2. Types of arthroplasty
  - 10.6.3. Wrist prosthetic surgery
  - 10.6.4. Wrist arthroplasty complications
- 10.7. Neuropathic pain and its management. Complex Regional Dystrophy Syndrome
  - 10.7.1. Identification of the Patient with Neuropathic Pain
  - 10.7.2. Management of Neuropathic Pain
  - 10.7.3. Symptoms and Diagnostic Criteria of CRPS
  - 10.7.4. Pharmacological and Interventional Treatment of CRPS





- 10.8. New Technologies applied to Hand Surgery. Robotics, 3D
  - 10.8.1. Technological advances in Hand Surgery
  - 10.8.2. Robotics and the Hand
  - 10.8.3. 3D engineering in Hand Surgery
- 10.9. Artificial Intelligence. Current and future applications
  - 10.9.1. Possibilities of AI
  - 10.9.2. Diagnostics and development of conservative treatment
  - 10.9.3. Surgical possibilities of AI
- 10.10. Infantile spastic hand. Three-dimensional analysis and applied treatments
  - 10.1.1. Identification of an Infantile Spastic Hand
  - 10.1.2. Diagnostic Methods and Three-dimensional Analysis
  - 10.1.3. Management of the spastic hand in children

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*A university program that will allow you to be aware of the possibilities offered by AI in Hand Surgery”*

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.





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*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.

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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.



07

# Certificate

The Professional Master's Degree in Hand Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree 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”*

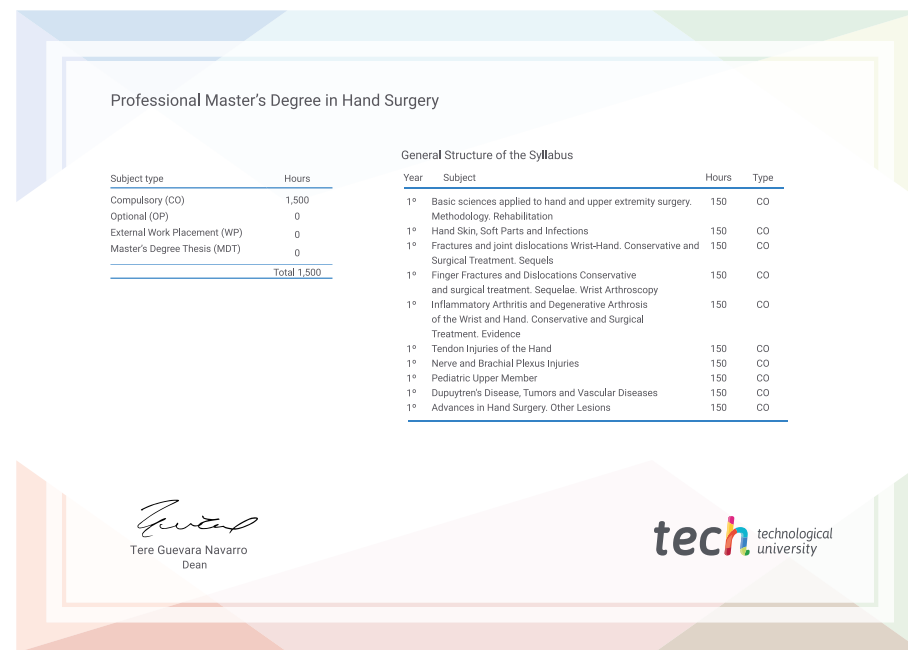
This **Professional Master's Degree in Hand Surgery** contains the most complete and up-to-date scientific program on the market.

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

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Hand Surgery**

Official N° of Hours: **1,500 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.



## Professional Master's Degree Hand Surgery

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree

## Hand Surgery

