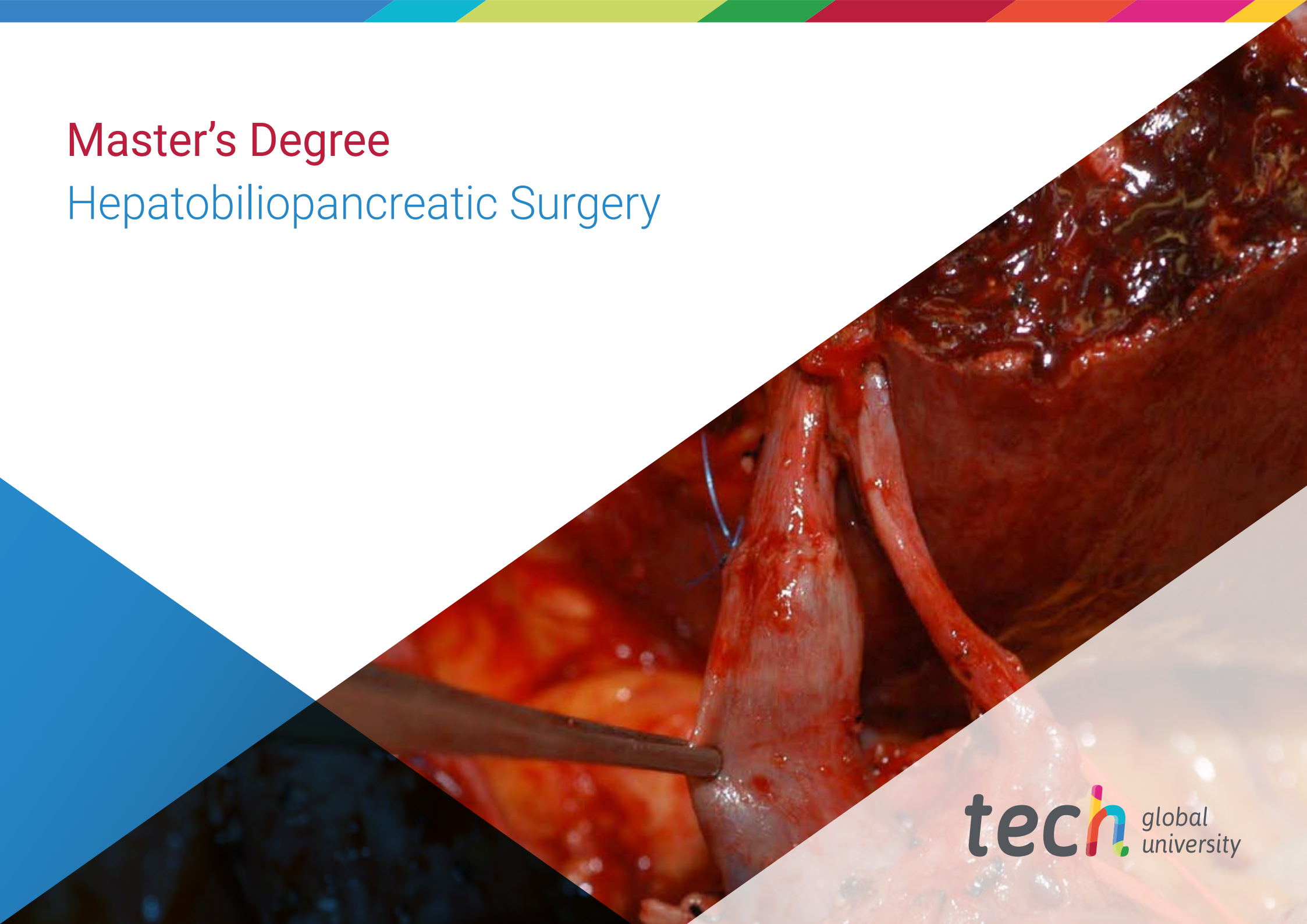
Master's Degree

Hepatobiliopancreatic Surgery



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Master's Degree
Hepatobiliopancreatic Surgery

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

Website: **www.techtitute.com/us/medicine/master-degree/master-hepatobiliopancreatic-surgery**

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01

Introduction

In view of the continuous advances in hepatobiliary surgery and therapeutic techniques for pancreatic pathologies, specialists need to update their knowledge on a regular basis. However, this is an arduous task, considering the scarcity of specialized programs in digestive surgery. In this context, surgeons run the risk of using less effective practices to treat their patients. Moreover, this lack of scientific evidence would add further uncertainty in clinical cases and even directly impact therapy processes. For this reason, TECH responds to this need by implementing a pioneering program in Hepatobiliopancreatic Surgery. It is worth mentioning that it is taught in a 100% online modality for the convenience of students.

You will handle the computed tomography procedure and create much more detailed images with X-rays"

The hepato-bilio-pancreatic area is presented as a vital area for the functioning of the body, but its anatomy is complex and sometimes its anatomical evaluation by radiological and endoscopic tests is difficult. Eighty percent of hepatobiliopancreatic surgeries are performed by minimally invasive surgery, resulting in less postoperative pain, less blood loss and shorter hospital stay. To this end, it is vital for specialists to be at the forefront of the most innovative procedures, providing the most accurate diagnoses and applying the safest treatments for patients.

Surgeons face the constant challenge of combining the updating of their knowledge with the improvement of their technical skills. In view of this, TECH has created a complete Master's Degree, through which students will have access to the most updated contents in pancreatic, hepatic and biliary pathology. Throughout this study plan, emerging technologies (abdominal ultrasound or magnetic resonance imaging), used for diagnostic imaging of hepatic focal lesions will be addressed.

Likewise, the classification of less frequent liver tumors (such as hepatoblastomas) will be studied in depth in order to contribute to early diagnosis and promote scientific research. The most up-to-date procedures, such as the laparoscopic technique and robotic surgery, will also be discussed. In this sense, these contemporary therapeutic approaches will enable graduates to make informed decisions and consider multidisciplinary treatment options.

In addition, the methodology of this program reinforces its innovative character. TECH offers a 100% online educational environment, tailored to the needs of busy professionals seeking to advance their careers. It also employs the Relearning methodology, based on the repetition of key concepts to fix knowledge and facilitate learning. In this way, the combination of flexibility and a robust pedagogical approach makes it highly accessible.

This **Master's Degree in Hepatobiliopancreatic 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 Hepatobiliopancreatic Surgery
- 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 the process of 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

You will diagnose the least common epithelial tumors with the best digital university in the world, according to Forbes"

You will achieve your goals thanks to TECH's didactic tools, including explanatory videos and interactive summaries"

You will perform the most complete ultrasound scans with the help of ultrasonic probes. And in only 12 months!

You will detect upper gastrointestinal bleeding in order to apply the most appropriate primary prophylaxis, according to your personal needs.

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 For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

This academic pathway will allow the physicians to acquire a complete approach to hepatobiliopancreatic surgery. To do so, they will learn about the diagnosis, indications and treatment of the different pathologies presented in patients. In addition, they will learn about the advances that this digestive branch has undergone in recent years. In this way, the graduates will perform a differential analysis, which will allow them to predict postoperative complications and manage them appropriately.

Get the most out of continuous monitoring for postoperative care in pulmonary hypertension. Enroll now!"

General Objectives

- Develop a thorough understanding of the normal anatomy of the liver, including vascular distribution, hepatic segmentation and anatomical relationships
- Establish a solid foundation in normal liver physiology to facilitate identification of pathologic deviations
- Establish a thorough understanding of the pathophysiology of benign liver diseases, including steatosis, chronic hepatitis, and other conditions
- Improve ethical decision making in the selection and application of diagnostic procedures, considering patient safety and welfare
- Stimulate interest in pancreatic disease research and promote constant updating on therapeutic and technological advances

You will delve into devascularization procedures to effectively manage the blood flow of patients"

Specific Objectives

Module 1. Surgical anatomy of the liver

- Recognize and manage anatomical variations relevant to surgical interventions, preparing participants for diverse clinical situations
- Integrate anatomical knowledge with contemporary surgical techniques, facilitating accurate planning and execution of hepatic interventions
- Acquire specific skills for laparoscopic liver surgery, considering the anatomy in a minimally invasive environment
- Encourage active participation through practice in virtual anatomical dissection, case studies and interactive discussions

Module 2. Hepatic Pathology

- Develop the ability to identify and classify various liver diseases, including hepatitis, cirrhosis and metabolic disorders
- Become familiar with the various laboratory tests and imaging techniques used to evaluate liver disease, allowing for a comprehensive patient assessment
- Evaluate the risk factors associated with liver disease and understand the progression of these conditions
- Develop skills in the planning and execution of treatment strategies, considering pharmacological and surgical approaches

Module 3. Benign Liver Disease

- Establish a thorough understanding of the pathophysiology of benign liver diseases, including steatosis, chronic hepatitis, and other conditions
- Become familiar with diagnostic techniques specific to benign liver diseases, such as laboratory tests and imaging studies, for accurate assessment
- Identify potential complications associated with benign liver diseases and learn how to prevent and manage them effectively
- Encourage the integration of a holistic approach in the management of patients with benign liver disease, considering medical, psychosocial, and nutritional aspects
- Develop skills to educate patients about their condition, promoting active participation in their care and management
- Improve evidence-based clinical decision making skills, considering the individualization of treatment for each patient

Module 4. Malignant Liver Disease

- Establish a thorough understanding of the biological and pathophysiological mechanisms involved in malignant liver diseases, such as hepatocarcinoma and cholangiocarcinoma
- Develop skills to identify and classify different types of hepatic neoplasms, considering their origin and histological characteristics
- Become familiar with state-of-the-art diagnostic techniques, such as computed tomography, magnetic resonance imaging and specific biomarkers, for an accurate assessment
- Analyze specific risk factors and prognostic features associated with malignant liver diseases to guide therapeutic decisions
- Encourage interest in oncologic research and continuous updating on therapeutic advances and emerging technologies
- Improve ethical decision making skills in the management of hepatic malignancies

Module 5. Hepatic and Duodecenopancreatic Trauma.

- Establish a solid understanding of the anatomy and physiology of the hepatic, duodenal and pancreatic region, particularly in the context of traumatic injuries
- Develop the ability to identify and classify the different mechanisms of injury affecting the liver, duodenum and pancreas in traumatic situations
- Become familiar with emergency diagnostic techniques, such as computed tomography and ultrasound, for rapid and accurate assessment of traumatic injuries
- Acquire specific surgical skills for the management of traumatic injuries, including techniques of hemostasis and repair of compromised organs
- Develop skills to anticipate and manage complications that may arise during and after treatment of traumatic injuries in these areas
- Improve reconstruction techniques in complex injuries, particularly in situations involving the duodenum and pancreas

Module 6. Study and Diagnosis of the Biliary Tract

- Establish a solid understanding of the normal anatomy and physiology of the biliary tract, including the gallbladder, bile ducts and sphincter of Oddi
- Become familiar with specific imaging techniques for the evaluation of the biliary tract, such as cholangiography and cholangioresonance imaging
- Develop the ability to identify and classify different disorders affecting the duct
- Become familiar with non-invasive diagnostic methods, such as ultrasound and computed tomography, for a complete evaluation of the biliary tract
- Understand the interpretation of specific laboratory tests related to bile duct function, such as liver tests and bilirubin levels
- Keep up-to-date with emerging diagnostic technologies, such as liver elastography, to improve diagnostic accuracy

Module 7. Pancreatic Disease

- Establish an in-depth understanding of the normal pathophysiology of the pancreas and the imbalances that lead to diseases such as acute and chronic pancreatitis
- Develop the ability to identify and classify different pancreatic diseases, including benign and malignant tumors
- Become familiar with advanced diagnostic techniques, such as endoscopic retrograde cholangiopancreatography (ERCP) and pancreatic MRI, for accurate assessment
- Assess risk factors associated with pancreatic diseases and understand the progression of these conditions
- Identify potential complications associated with pancreatic diseases and learn how to prevent and manage them effectively

Module 8. Benign Pathology of the Bile Duct and Pancreas

- Establish an in-depth understanding of the pathophysiology of benign diseases affecting the bile duct and pancreas, including biliary lithiasis, pancreatic cysts, and other conditions
- Develop the ability to identify and classify different benign conditions in the bile duct and pancreas, recognizing their distinguishing features
- Become familiar with diagnostic techniques specific to benign disease, such as abdominal ultrasonography and cholangiography, for accurate evaluation
- Identify possible complications associated with benign disease and learn how to prevent and manage them effectively

Module 9. Malignant Pathology of the Bile Duct and Pancreas

- Establish a thorough understanding of the biological and pathophysiological mechanisms involved in malignant diseases of the bile duct and pancreas, such as pancreatic cancer and cholangiocarcinoma
- Develop skills to identify and classify different types of malignant neoplasms in the biliary tract and pancreas, considering their origin and histological characteristics
- Become familiar with advanced diagnostic techniques, such as computed tomography, magnetic resonance imaging and endoscopy, for accurate and early evaluation of malignant conditions
- Analyze specific risk factors

Module 10. Surgery for portal hypertension

- Establish an in-depth understanding of the pathophysiologic mechanisms leading to portal hypertension, including liver cirrhosis and other causes
- Develop skills in identifying and classifying the different etiologies of portal hypertension, such as cirrhosis, portal thrombosis, and other underlying conditions
- Acquire skills in the preoperative evaluation of patients with portal hypertension, considering risk factors and benefit of surgery
- Foster collaboration with other healthcare professionals, such as hepatologists, interventional radiologists and anesthesiologists, for a comprehensive and coordinated approach

03

Competencies

The structure of the contents of this program has been designed by a team of professionals, aware of the need for specialization in the surgical practice of hepatobiliary and pancreatic pathology. Taking into account the current importance of this training, physicians will be offered the most advanced techniques to treat patients with digestive system problems. The graduates will apply the most cutting-edge procedures, while perfecting their communication skills in interpersonal relationships.

This Master's Degree will keep you up to date in the diagnosis and treatment of patients with hepatobiliary and pancreatic difficulties"

General Skills

- Develop an in-depth view of the normal anatomy of the liver, including vascular distribution, hepatic segmentation and the anatomical relationships that are established
- Acquire skills in the design and application of therapeutic strategies encompassing surgical approaches, radiotherapy and systemic therapies, promoting a comprehensive approach
- Enhance skills to anticipate and manage intraoperative and postoperative complications associated with interventions in portal hypertension, including hepatic encephalopathy and renal failure
- Keep current with emerging technologies and advanced surgical approaches in the field of portal hypertension surgery to improve accuracy and outcomes
- Develop skills to educate patients about their benign condition

Looking to update your daily medical practice? You will master the most innovative vascular management techniques in liver surgery"

Specific Skills

- The students will be able to delve into the anatomy from the perspective of prevention of intraoperative and postoperative complications, promoting patient safety
- Identify potential complications of liver disease and learn how to prevent and manage them effectively
- Acquire skills in the design and application of effective therapeutic strategies, considering medical and surgical approaches
- Develop skills in educating patients about portal hypertension surgery, promoting understanding and active participation in the treatment process
- Master the specific surgical techniques used in the management of portal hypertension, such as portosystemic shunts and portal decongestion procedures
- Apply personalized therapeutic strategies, considering the diversity of clinical presentations
- Improve communication skills to effectively inform both patients and their families on the management and prognosis of traumatic injuries

04

Course Management

In its commitment to offer the highest quality education, TECH has a prestigious teaching staff. Through their guidance, the physicians will update their knowledge and renew their skills in hepatobiliopancreatic surgery. These professionals have an extensive professional background, which has allowed them to be part of prestigious international hospitals. Thanks to this, the study plan will provide the specialist with the latest scientific advances in this health field. Students will have the guarantees they need to keep up to date in a continuously evolving sector.

Get up to date with the latest trends in Hepatobiliopancreatic Surgery, with the support of the best specialists"

International Guest

Surgery and liver transplantation are the fields of research to which the eminent French physician and researcher Eric Vibert has devoted his professional career. For almost three decades, this expert has been involved in the holistic approach to primary liver cancer. Based on these interests, he has positioned himself as a true reference in this field, making significant contributions.

Dr. Vibert also leads a consortium called BOPA, which includes the University Paris-Saclay, the Ecole Mines Telécom and the Hepatobiliary Center of the Paul-Brousse Hospital (AP-HP). The aim of this project is to improve safety in operating rooms. To this end, its innovations are based on digital technologies, in gestation or already existing, which make it possible to increase the range of vision, speech and touch of the medical staff before any type of operation. These contributions, first implemented in simulated surgical rooms, have allowed the validation of multiple disruptive procedures.

In addition, this scientific pioneer is committed to connecting professionals from different fields in order to reinvent surgical practices. That is why his teams bring together engineers and computer scientists, as well as physicians, anesthesiologists, nurses and many other specialists. A work strategy that he continually integrates into his responsibilities and into the leadership of the Department of Surgery and Liver Transplantation at the Paul-Brousse de Villejuif Hospital in Paris.

In terms of academic impact, Dr. Vibert has more than 130 communications at international conferences and 30 plenary lectures. He also has an impressive H-index of 43, having authored 212 publications in first impact journals. He is also the author of the book Droit à l'Erreur, Devoir de Transparence, which deals with transparency and error management in medicine, and is the creator of the Week-End de l'Innovation Chirurgicale, with which he has left an everlasting medical-surgical mark.

Dr. Vibert, Eric

- Chief of Surgery and Liver Transplantation at the Paul-Brousse de Villejuif
- Hospital, Paris, France
- Head of the Surgical Innovation Group at the University of Paris Sud
- Specialist in Liver and Biliary Tract Cancer Surgery
- Head of the Surgical Innovation Group of GH Paris Sud
- Director of Research, Biomedical/Medical Engineering at the University Paris-Sud
- Creator and Organizer of the Week-End de l'Innovation Chirurgicale
- Doctor of Medicine, St. Antoine Faculty of Medicine, University Paris VI

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

Management

Dr. Al Shwely Abduljabar, Farah

- Head of the Hepatobiliopancreatic Surgery Unit of the University Hospital of Guadalajara
- PhD in Medicine, University of Alcala
- Specialist in General and Digestive System Surgery at the University Hospital of Guadalajara
- *Astellas Fellowship* in Hepatobiliopancreatic Surgery and liver and pancreatic transplantation
- Official Master's Degree in Hepatology and Clinical Research at the University of Barcelona
- Official Master's Degree in Medical Expertise and Valuation of Bodily Injury by the University of Barcelona
- Degree in Medicine from the University of Alcalá, Spain
- Reviewer of the Central European Journal of Medicine
- Member of the Spanish Association of Surgeons
- Editor of: Journal of Liver and Clinical Research, EC Orthopaedics, Austin Pancreatic Disorders and Annals of Clinical Cytology and Pathology

Professors

Dr. Catalán Garza, Vanessa

- Specialist in General and Digestive System Surgery at the University Hospital of Guadalajara
- Physician at the Clinical Hospital San Carlos
- Professional in Pediatrics in Clinical Medicine at the Camilo José Cela University
- Degree in Medicine from the University of Zaragoza

Dr. Gemio, Ignacio

- Specialist in General and Digestive System Surgery
- Professor in the Department of Surgery, Medical and Social Sciences
- Master's Degree in Major Outpatient Surgery, Francisco de Vitoria University
- Degree in Medicine from the University of Alcalá

Dr. Bajawi, Mariam

- Specialist in General and Digestive System Surgery at the University Hospital of Guadalajara
- Clinical Professor of General and Digestive Surgery
- PhD in Health and Life Sciences from the University of Alcalá de Henares
- Master's Degree in Digestive Oncology (CEU Cardenal Herrera University) and Clinical Medicine (Camilo José Cela University)
- Degree in Medicine from the University of Jordan

Dr. López Marcano, Aylhin

- Physician in the Hepatobiliopancreatic Surgery Unit of the University Hospital of Guadalajara
- PhD in Medicine, University of Alcala
- Specialist in General and Digestive System Surgery
- Graduated from the Luis Razetti School of Medicine
- Degree in Medicine from the Central of Caracas University

Dr. Díaz Candelas, Daniel Alejandro

- Specialist in General and Digestive System Surgery, University Hospital of Guadalajara, Mexico
- Postgraduate Diploma in Bases in Esophagogastric Surgery
- Degree in Medicine from the Central University of Venezuela
- Professor at the University Hospital of Guadalajara

Dr. Picardo, María Dolores

- General and Digestive System Surgeon at the University Hospital of Guadalajara
- Director of doctoral theses and final projects at La Paz University Hospital
- R+D+i management and participation in scientific committees
- Teacher in courses and seminars oriented to university teaching training
- Degree in Medicine from the Autonomous University of Madrid
- Member of the Technical-Assistance Board of the Integrated Care Management of Guadalajara

Dr. García Gil, José Manuel

- Specialist in Esophagogastric and Endocrine Surgery at the University Hospital of Guadalajara
- Doctor of General Surgery and Digestive System at the University Hospital of Móstoles
- Master's Degree in Updating in General Surgery and Digestive System by Cardenal Herrera University
- Teaching experience in Emergency Surgical Pathology courses
- Regular attendee at congresses and scientific conferences to update his knowledge
- Member of the Spanish Association of Surgeons

Dr. González Sierra, Begoña

- Specialist in General and Digestive System Surgery at the University Hospital of Guadalajara
- Master's Degree in General Surgery Updating by the Spanish Confederation of Universities
- Master's Degree in Integration and Clinical Problem Solving in Medicine from the University of Alcalá, Spain
- Master's Degree in Aesthetic Medicine, Universidad Rey Juan Carlos, Madrid
- Degree in Medicine from the Complutense University of Madrid
- Postgraduate Certificate in Physiotherapy from the Rey Juan Carlos University

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

05

Structure and Content

This program will offer students the most updated contents on pancreatic and hepatic pathology, as well as biliary tract. The syllabus will allow specialists to make a differential diagnosis, taking into account the typology of the patients, both in urgent and programmed surgery. The didactic materials will delve into the surgical anatomy of the liver, analyzing the methods for the management of bleeding, such as transfusions. Likewise, the different benign liver tumors will be addressed, so that students understand their causes, symptoms and diagnoses. In addition, an update on the surgical treatment of portal hypertension will be offered in order to prevent complications.

A syllabus that contains the most complete and updated scientific program on the market. Enroll now!"

Module 1. Surgical anatomy of the liver

1.1. Liver Anatomy
- 1.1.1. General Aspects
- 1.1.2. Embryonic development of the liver of the bile duct
- 1.1.3. Conclusions

1.2. Anatomical relationships of the liver
- 1.2.1. Superior relationships
- 1.2.2. Anterior relationships
- 1.2.3. Lateral Relationships

1.3. Hepatic vascularization
- 1.3.1. Definition
- 1.3.2. Types
- 1.3.3. Conclusions

1.4. Anatomy of the biliary tree
- 1.4.1. Organs
- 1.4.2. Hepatic ducts
- 1.4.3. Conclusions

1.5. Hepatic segmentation
- 1.5.1. Anatomical segmentation
- 1.5.2. Division into Eight Segments
- 1.5.3. Clinical Significance

1.6. Ultrasound exploration of the hepatic anatomy
- 1.6.1. Position of the Patient
- 1.6.2. Ultrasonic probe
- 1.6.3. Exploration of the liver

1.7. Type of hepatic anatomical approaches
- 1.7.1. Hepatectomy
- 1.7.2. Segmentectomy
- 1.7.3. Wedge resection

1.8. Management of bleeding in liver surgery
- 1.8.1. Use of hemostatics and sealants
- 1.8.2. Suture technique
- 1.8.3. Blood transfusion

1.9. Techniques of vascular control in liver surgery
- 1.9.1. Main Techniques
- 1.9.2. Most used techniques
- 1.9.3. Conclusions

1.10. Hemostatic agents in liver surgery
- 1.10.1. Hemostatic sponges
- 1.10.2. Absorbable gelatins
- 1.10.3. Tissue adhesives

Module 2. Hepatic Pathology

2.1. Pre-Operative Study
- 2.1.1. Medical History
- 2.1.2. Hepatic Function Tests (LFTs)
- 2.1.3. Other Tests

2.2. Liver function
- 2.2.1. Key liver functions
- 2.2.2. Bile production
- 2.2.3. Conclusions

2.3. Classification of liver diseases
- 2.3.1. Infectious
- 2.3.2. Metabolic
- 2.3.3. Genetics

2.4. Pre-operative and intraoperative diagnostic methods for liver disease
- 2.4.1. Imaging tests
- 2.4.2. Hepatic biopsy
- 2.4.3. Hepatic scintigraphy
- 2.4.4. Other Tests

2.5. Study of Liver Function
- 2.5.1. Markers
- 2.5.2. Coagulation time
- 2.5.3. Laboratory Tests

2.6. Hepatic volumetry
- 2.6.1. Computed Tomography (CT) and Magnetic Resonance Imaging (MRI)
- 2.6.2. Hepatic Ultrasound Scan
- 2.6.3. Hepatic scintigraphy

2.7. Diagnostic imaging of focal hepatic lesions in patients with chronic liver disease
- 2.7.1. Abdominal ultrasound
- 2.7.2. Computed Tomography (CT)
- 2.7.3. Magnetic Resonance Imaging (MRI)

2.8. Incidental hepatic lesions
- 2.8.1. Differential Diagnosis
- 2.8.2. Types of Lesions
- 2.8.3. Treatment

2.9. Interventional radiology in the management of liver disease
- 2.9.1. Image-guided liver biopsy
- 2.9.2. Percutaneous drainage of hepatic abscesses
- 2.9.3. Transarterial Embolization (TAE) and Chemoembolization (TACE)

2.10. Anesthetic management in hepatic surgery
- 2.10.1. Properative Evaluation
- 2.10.2. Hemodynamic control
- 2.10.3. Coagulation management

Module 3. Benign Liver Disease

3.1. Classification of benign hepatic tumors
- 3.1.1. Hepatic hemangiomas
- 3.1.2. Focal Nodular Hyperplasia (FNH)
- 3.1.3. Hepatic adenomas

3.2. Benign hepatocellular epithelial tumors
- 3.2.1. Hepatocellular adenoma
- 3.2.2. Focal Nodular Hyperplasia (FNH)
- 3.2.3. Nodular Regeneration Focus (NRF)

3.3. Benign cholangiocellular epithelial tumors
- 3.3.1. Biliary papilloma
- 3.3.2. Biliary adenoma
- 3.3.3. Ductopenia

3.4. Benign mesenchymal tumors
- 3.4.1. Hepatic fibroma
- 3.4.2. Hepatic leiomyoma
- 3.4.3. Conclusions

3.5. Pyogenic Hepatic Abscesses
- 3.5.1. Causes and Risk Factors
- 3.5.2. Symptoms
- 3.5.3. Diagnosis

3.6. Amoebic Liver Abscesses
- 3.6.1. Causes
- 3.6.2. Symptoms
- 3.6.3. Diagnosis

3.7. Hepatic hydatidosis
- 3.7.1. Causes
- 3.7.2. Symptoms
- 3.7.3. Diagnosis

3.8. Complications of hepatic abscesses
- 3.8.1. Rupture of the abscess
- 3.8.2. Fistula formation
- 3.8.3. Other Complications

3.9. Simple liver cysts
- 3.9.1. Polycystic liver cyst
- 3.9.2. Diagnosis
- 3.9.3. Treatment

3.10. Other benign liver lesions
- 3.10.1. Hamartoma
- 3.10.2. Inflammatory pseudotumor
- 3.10.3. Other Lesions

Module 4. Malignant Liver Disease

4.1. Malignant Liver Disease
- 4.1.1. Main Diseases
- 4.1.2. Risk Factors
- 4.1.3. Lifestyle

4.2. Hepatocellular Carcinoma
- 4.2.1. Risk Factors
- 4.2.2. Symptoms
- 4.2.3. Diagnosis

4.3. Intrahepatic Cholangiocarcinoma
- 4.3.1. Risk Factors
- 4.3.2. Symptoms
- 4.3.3. Diagnosis

4.4. Other less frequent epithelial tumors
- 4.4.1. Hepatic cystadenocarcinoma
- 4.4.2. Fibrolamellar carcinoma
- 4.4.3. Hepatoblastoma

4.5. Mesenchymal Tumors
- 4.5.1. Undifferentiated embryonal sarcoma
- 4.5.2. Epidermoid hemangioendothelioma
- 4.5.3. Angiosarcoma. Lymphoma

4.6. Hepatic metastases of colorectal cancer
- 4.6.1. Risk Factors
- 4.6.2. Symptoms
- 4.6.3. Diagnosis

4.7. Clinical scenarios and factors to be taken into account for treatment choice
- 4.7.1. Causes
- 4.7.2. Control of Risk Factors
- 4.7.3. Possible treatments

4.8. Surgical strategies for malignant hepatic pathology
- 4.8.1. Hepatic resection
- 4.8.2. Liver transplantation
- 4.8.3. Others

4.9. Hepatic metastases of colorectal cancer and neuroendocrine tumors
- 4.9.1. Risk Factors
- 4.9.2. Symptoms
- 4.9.3. Treatment

4.10. Liver metastases not from colorectal cancer or neuroendocrine tumors
- 4.10.1. Risk Factors
- 4.10.2. Symptoms
- 4.10.3. Treatment

Module 5. Hepatic and Duodecenopancreatic Trauma

5.1. Mechanism of injury in hepatic traumatism
- 5.1.1. Degrees of injury
- 5.1.2. Injury management
- 5.1.3. Conclusions

5.2. Evaluation, exploration and classification of hepatic traumatism
- 5.2.1. Assessment
- 5.2.2. Exploration
- 5.2.3. Classification

5.3. Conservative management of hepatic trauma
- 5.3.1. Types of Lesions
- 5.3.2. Strategies
- 5.3.3. Conclusions

5.4. Surgical management of hepatic traumatism
- 5.4.1. Type of lesions
- 5.4.2. Strategy
- 5.4.3. Conclusions

5.5. Injuries to the vena cava and suprahepatic veins in liver trauma
- 5.5.1. Cava Vein
- 5.5.2. Suprahepatic veins
- 5.5.3. Diagnosis and Management

5.6. Mechanism of injury in duodenal and pancreatic traumatism
- 5.6.1. Trauma
- 5.6.2. Associated injuries
- 5.6.3. Treatment

5.7. Evaluation, examination and classification of duodenal and pancreatic trauma
- 5.7.1. Assessment
- 5.7.2. Exploration
- 5.7.3. Classification

5.8. Diagnosis of duodenal and pancreatic trauma
- 5.8.1. Clinical Assessment
- 5.8.2. Diagnostic Tests
- 5.8.3. Treatment

5.9. Treatment of duodenal and pancreatic traumatism
- 5.9.1. Duodenal trauma
- 5.9.2. Pancreatic trauma
- 5.9.3. Special considerations

5.10. Complications of duodenal and pancreatic traumatism
- 5.10.1. Management of complications
- 5.10.2. Evaluation of complications
- 5.10.3. Conclusions

Module 6. Study and Diagnosis of the Biliary Tract

6.1. Surgical and vascular anatomy of the biliary tract
- 6.1.1. Liver
- 6.1.2. Gallbladder
- 6.1.3. Cystic duct

6.2. Physiology of bile
- 6.2.1. Production
- 6.2.2. Storage
- 6.2.3. Functions

6.3. Pathophysiology of the gallbladder and biliary tract
- 6.3.1. Calculations
- 6.3.2. Tumours
- 6.3.3. Others

6.4. Clinical history, laboratory tests in the patient with biliary pathology
- 6.4.1. Medical history
- 6.4.2. Risk Factors
- 6.4.3. Conclusions

6.5. Imaging study of the biliary tract
- 6.5.1. Abdominal ultrasound
- 6.5.2. Cholangiography by Magnetic Resonance (MRCP)
- 6.5.3. Abdominal Computed Tomography (CT)

6.6. Colelitiasis
- 6.6.1. Coledocolitiasis
- 6.6.2. Causes
- 6.6.3. Symptoms

6.7. Endoscopic treatment of choledocholithiasis
- 6.7.1. Endoscopic Retrograde Endoscopic Cholangiopancreatography (ERCP)
- 6.7.2. Echoendoscopy
- 6.7.3. Others

6.8. Interventional radiology in the diagnosis of biliary tract pathology
- 6.8.1. Transhepatic Percutaneous Transhepatic Cholangiography (TPC)
- 6.8.2. Magnetic Resonance Cholangiography (MRCP) with MRI Cholangiography
- 6.8.3. Endoscopic Retrograde Endoscopic Cholangiopancreatography (ERCP)

6.9. Surgical management of lithiasic pathology of the biliary tract
- 6.9.1. Description
- 6.9.2. Advantages
- 6.9.3. Procedures

6.10. New therapeutic approaches to biliary tract lithiasic pathology
- 6.10.1. Laparoscopic approach
- 6.10.2. Robotic Surgery
- 6.10.3. Others

Module 7. Pancreatic Disease

7.1. Pancreas Anatomy
- 7.1.1. Location
- 7.1.2. Divisions of the pancreas
- 7.1.3. Relationship with other organs

7.2. Surgical anatomy of the pancreas
- 7.2.1. Head
- 7.2.2. Body
- 7.2.3. Tail

7.3. Embryology of the pancreas
- 7.3.1. Initial development
- 7.3.2. Formation of the parts
- 7.3.3. Conclusions

7.4. Vascularization and venous drainage
- 7.4.1. Pancreatic arteries
- 7.4.2. Accessory pancreatic arteries
- 7.4.3. Drainages

7.5. Lymphatic drainage (lymph node stations)
- 7.5.1. Peripancreatic lymph node station
- 7.5.2. Splenic Hilum Lymph Nodal Station
- 7.5.3. Hepatic Hilum Nodal Station

7.6. Pancreatic physiology
- 7.6.1. Exocrine function of the pancreas
- 7.6.2. Endocrine Function of the Pancreas
- 7.6.3. Regulation of the endocrine function

7.7. Regulation of pancreatic secretion
- 7.7.1. Neuronal stimulation
- 7.7.2. Hormonal stimulus
- 7.7.3. Negative feedback mechanisms

7.8. Medical History
- 7.8.1. Physical Examination
- 7.8.2. Complementary Tests
- 7.8.3. Others

7.9. Imaging studies of pancreatic pathology
- 7.9.1. Abdominal Computed Tomography (CT)
- 7.9.2. Magnetic Resonance Imaging (MRI) of the Pancreas
- 7.9.3. Abdominal ultrasound

7.10. Echoendoscopy in the diagnosis of pancreatic disease
- 7.10.1. Detailed visualization of the pancreas
- 7.10.2. Evaluation of pancreatic tumors
- 7.10.3. Detection of small lesions

Module 8. Benign Pathology of the Bile Duct and Pancreas

8.1. Lithiasic pathology
- 8.1.1. Cholecystitis
- 8.1.2. Cholangitis
- 8.1.3. Diagnosis and Treatment

8.2. Latrogenic lesions of the biliary tract
- 8.2.1. Cholecystectomy
- 8.2.2. Liver Surgery
- 8.2.3. Others

8.3. Obstructive jaundice
- 8.3.1. Causes
- 8.3.2. Symptoms
- 8.3.3. Treatment

8.4. Choledochal cysts
- 8.4.1. Types
- 8.4.2. Causes
- 8.4.3. Symptoms

8.5. Acute Pancreatitis
- 8.5.1. Classification
- 8.5.2. Nomenclature
- 8.5.3. Treatment

8.6. Management of acute pancreatitis
- 8.6.1. Hospitalization
- 8.6.2. Pain Management
- 8.6.3. Hydration

8.7. Chronic Pancreatitis
- 8.7.1. Types
- 8.7.2. Causes
- 8.7.3. Symptoms

8.8. Management of Chronic Pancreatitis
- 8.8.1. Supplements
- 8.8.2. Diet
- 8.8.3. Complications

8.9. Pancreatic Cystic Tumors
- 8.9.1. Types
- 8.9.2. Causes
- 8.9.3. Symptoms

8.10. Surgical indications for pancreatic cystic tumors
- 8.10.1. Size
- 8.10.2. Features
- 8.10.3. Tumor location

Module 9. Malignant Pathology of the Bile Duct and Pancreas

9.1. Pancreatic ductal adenocarcinoma
- 9.1.1. Features
- 9.1.2. Symptoms
- 9.1.3. Treatment

9.2. Classification of ductal adenocarcinoma according to resectability
- 9.2.1. Types
- 9.2.2. Causes
- 9.2.3. Conclusions

9.3. Multidisciplinary treatment of adenocarcinoma of the pancreas
- 9.3.1. Multidisciplinary team
- 9.3.2. Initial evaluation and staging
- 9.3.3. Surgery

9.4. Surgical Techniques
- 9.4.1. Cephalic duodenopancreatectomy
- 9.4.2. Corporocaudal splenopancreatectomy
- 9.4.3. Cephalic pancreatectomy

9.5. Anatomopathologic study of the pancreatectomy specimen
- 9.5.1. Obtaining the specimen
- 9.5.2. Fixation and processing
- 9.5.3. Histological sections

9.6. Adenocarcinoma of the gallbladder
- 9.6.1. Description
- 9.6.2. Staging of adenocarcinoma of the gallbladder
- 9.6.3. Conclusions

9.7. Treatment of adenocarcinoma of the gallbladder
- 9.7.1. Surgery
- 9.7.2. Chemotherapy
- 9.7.3. Radiotherapy

9.8. Extrahepatic cholangiocarcinoma
- 9.8.1. Description
- 9.8.2. Diagnosis of extrahepatic cholangiocarcinoma
- 9.8.3. Conclusions

9.9. Classification of extrahepatic cholangiocarcinoma
- 9.9.1. Types
- 9.9.2. Symptoms
- 9.9.3. Risk Factors

9.10. Treatment of extrahepatic cholangiocarcinoma
- 9.10.1. Surgery
- 9.10.2. Chemotherapy
- 9.10.3. Radiotherapy

Module 10. Surgery for portal hypertension

10.1. Pathophysiology of portal hypertension
- 10.1.1. Obstruction of blood flow
- 10.1.2. Increased resistance to flow
- 10.1.3. Development of portosystemic collaterals

10.2. Etiology
- 10.2.1. Classification
- 10.2.2. Hepatic Cirrhosis
- 10.2.3. Chronic Hepatitis

10.3. Primary prophylaxis of esophageal variceal bleeding
- 10.3.1. Treatment of the underlying cause
- 10.3.2. Beta-Blockers
- 10.3.3. Endoscopic sclerotherapy

10.4. Secondary prophylaxis of bleeding from esophageal varices
- 10.4.1. Beta-Blockers
- 10.4.2. Endoscopic sclerotherapy or elastic ligation
- 10.4.3. Development of continuous monitoring plans

10.5. Treatment of acute esophageal variceal hemorrhage
- 10.5.1. Stabilization of the Patient
- 10.5.2. Fluid Therapy and Transfusions
- 10.5.3. Pharmacological Therapy

10.6. Portosystemic shunts
- 10.6.1. Procedure
- 10.6.2. Objectives
- 10.6.3. Indications

10.7. Devascularization procedures
- 10.7.1. Selective devascularization
- 10.7.2. Splenic devascularization
- 10.7.3. Gastric devascularization

10.8. Surgical treatment of portal hypertension
- 10.8.1. Transjugular Intrahepatic Portosystemic Intrahepatic Shunt (TIPS)
- 10.8.2. Surgical Portosystemic Surgical Portosystemic Bypass
- 10.8.3. Splenectomy

10.9. Postoperative care in the surgery of the PHT
- 10.9.1. Continuous Monitoring
- 10.9.2. Care
- 10.9.3. Pain Management

10.10. Outcomes of portal hypertension surgery
- 10.10.1. Reduction of portal pressure
- 10.10.2. Prevention of complications
- 10.10.3. Symptom improvement

With the Relearning system you will integrate all the concepts in a natural and progressive way"

06

Methodology

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

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

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

At TECH we use the Case Method

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

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

According to Dr. 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.

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:

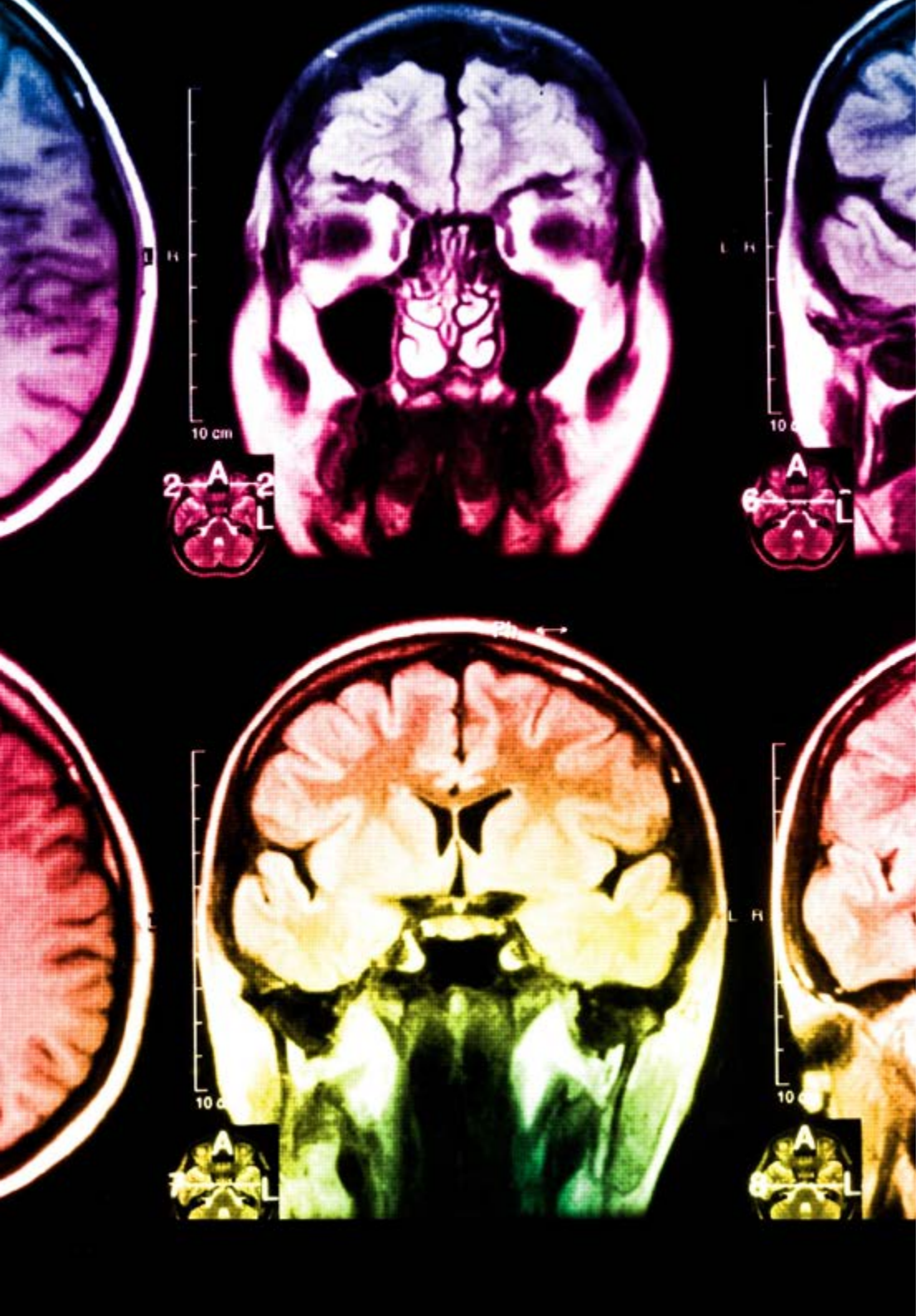
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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.

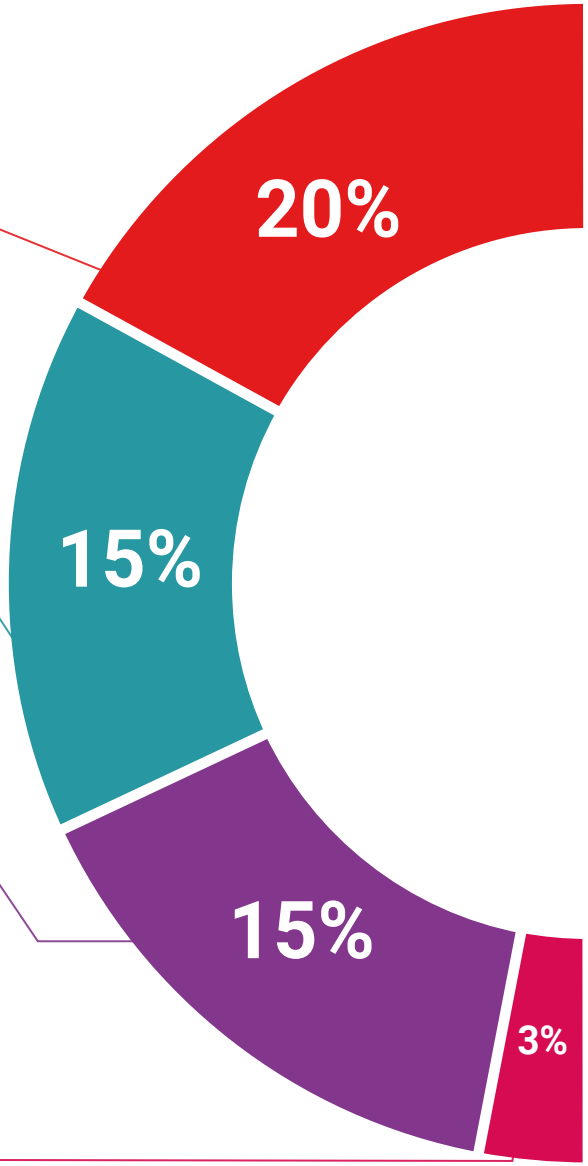
Interactive Summaries

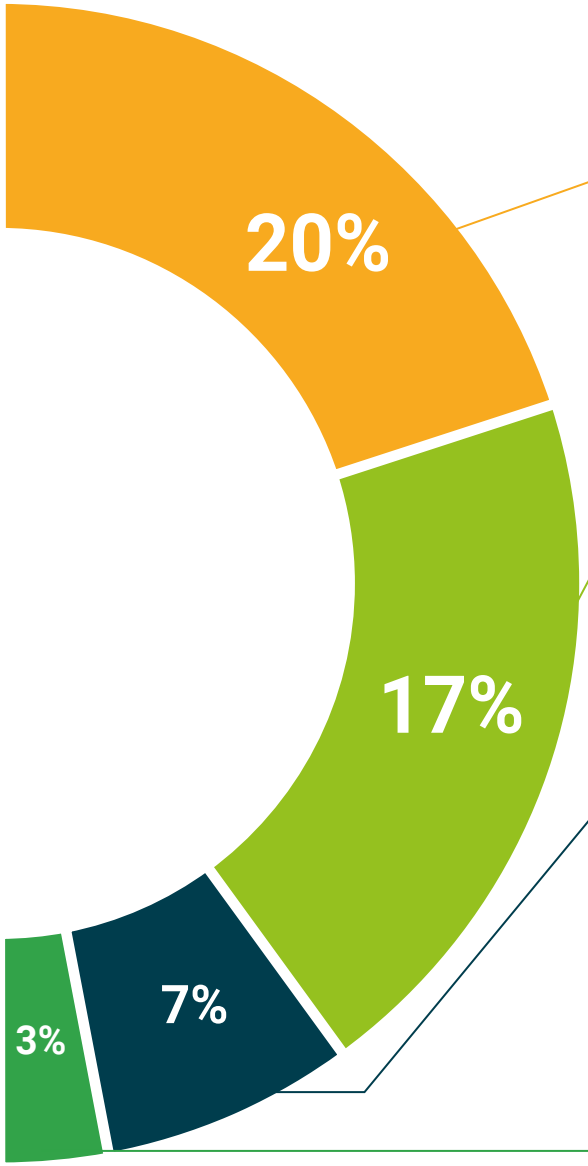
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 Master's Degree in Hepatobiliopancreatic Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a Master's Degree diploma issued by TECH Global University.

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

This program will allow you to obtain your **Master's Degree diploma in Hepatobiliopancreatic Surgery** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Master's Degree in Hepatobiliopancreatic Surgery**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**

tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Master's Degree in Hepatobiliopancreatic Surgery

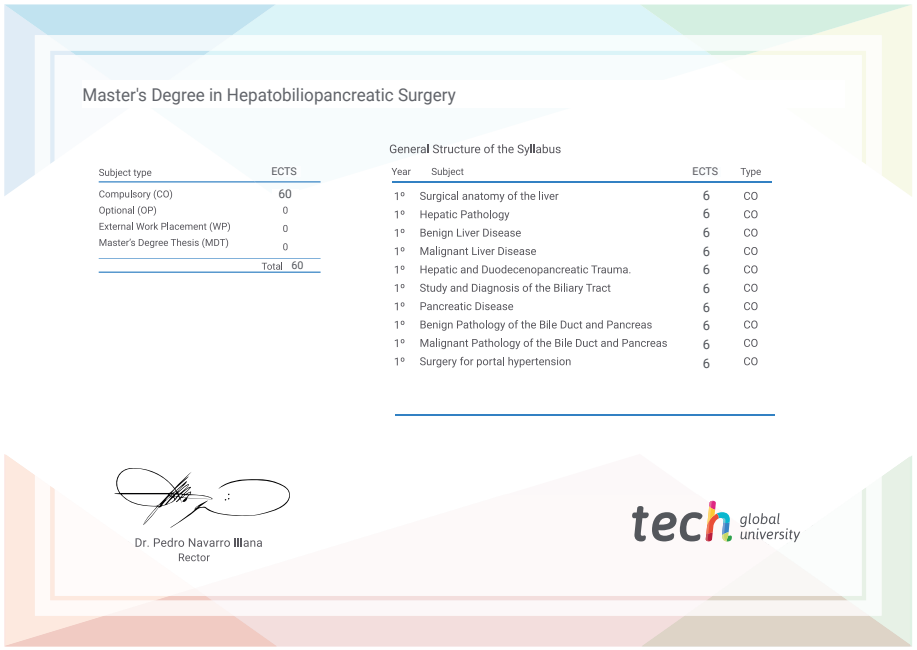
This is a program of 1,500 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates


Master's Degree in Hepatobiliopancreatic Surgery

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
Total	60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Surgical anatomy of the liver	6	CO
1º	Hepatic Pathology	6	CO
1º	Benign Liver Disease	6	CO
1º	Malignant Liver Disease	6	CO
1º	Hepatic and Duodecenopancreatic Trauma.	6	CO
1º	Study and Diagnosis of the Biliary Tract	6	CO
1º	Pancreatic Disease	6	CO
1º	Benign Pathology of the Bile Duct and Pancreas	6	CO
1º	Malignant Pathology of the Bile Duct and Pancreas	6	CO
1º	Surgery for portal hypertension	6	CO

Dr. Pedro Navarro Illana
Rector

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

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Master's Degree
Hepatobiliopancreatic Surgery

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

Master's Degree

Hepatobiliopancreatic Surgery

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