Hybrid Master's Degree

Nursing in the Assisted Reproduction Service

tech global university

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Hybrid Master's Degree

Nursing in the Assisted Reproduction Service

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

Duration: **12 months**

Certificate: **TECH Global University**

60 + 5 ECTS Credits

Website: **www.techtitute.com/us/nursing/hybrid-master-degree/hybrid-master-degree-nursing-assisted-reproduction-service**

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01

Introduction

The role of nursing during assisted reproduction processes is fundamental, not only in terms of the clinical and therapeutic management of patients, but also because of the emotional support they provide throughout the process. However, this is an area in which no specific guidelines have been established and in which each center establishes its own criteria. For this reason, TECH has considered it necessary to develop a program with which professionals in this sector can update their knowledge, as well as unify criteria in terms of care practice in fertility units. This is a program that combines theory and practice in a prestigious clinic, with unparalleled academic experience, thanks to which the nurse can work on improving their skills in relation to the area of reproduction, implementing in their practice the management of the most innovative tools to fulfill the dream of thousands of people who want to be parents.

You will work intensively in the improvement of your professional skills in a theoretical and practical way through 1,620 hours of the best academic experience for nursing praxis"

In the last decade, fertility problems have increased considerably, making conception more difficult and, therefore, increasing the demand for Assisted Reproductive services. Thanks to the advances that have been made in fertility issues and stimulation treatments, nowadays the probability of success for people who undergo this type of therapy exceeds 60%. In this sector, the role of the nursing professional is fundamental, since, in addition to carrying out study, analysis and clinical management tasks, they play an important role in terms of the psychological and emotional support required in each case.

Based on this, TECH has developed a complete and multidisciplinary program through which specialists in this field will be able to update their practice and offer a service at the forefront of fertility care. This is a Hybrid Master's Degree that combines the best syllabus and the most diverse additional content with an Internship of 120 hours.

Once you have completed the 1,500 hours of 100% online experience, you will have access to 3 weeks in one of the best clinics in the country, where you will be able to actively participate in the clinical management of patients together with a team of nurses and doctors of the highest level. In this way, you will be able to put into practice the strategies developed in the theoretical section, while perfecting your technical skills, as well as communication and support skills, together with the best specialists. It is, therefore, a unique opportunity to attend an experience thanks to which you will be able to implement in your practice the most effective, efficient and innovative guidelines of the Assisted Reproduction sector in order to always achieve the best results. inreference center in the area of Assisted Reproduction. Therefore, initially you will be able to delve into the advances related to the physiology of fertilization, infertility in men and women, the importance of genetic and immunological aspects in different cases, pharmacology and the most innovative and effective techniques for hormone treatment.

This **Hybrid Master's Degree in Nursing in the Assisted Reproduction Service** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- The development of more than 100 clinical cases presented by nursing professionals, experts in Reproduction and university professors with extensive experience in the management of sterile patients
- Its graphic, schematic and eminently practical contents with which they are conceived, gather scientific and assistance information on those medical disciplines that are essential for professional practice
- Assessment and monitoring of sterile patients, the latest international recommendations on assisted reproduction maneuvers, previous care in patients with reproductive disorders, etc
- Comprehensive systematized action plans for the main pathologies in the Reproduction Unit
- Presentation of practical workshops on diagnostic and therapeutic techniques in infertile patients
- Interactive learning system based on algorithms for decision-making on the clinical situations presented
- Availability of the contents from any fixed or portable device with an Internet connection
- In addition, you will be able to carry out a clinical internship in one of the best hospital centers

A program with which you will have access to a practical internship of 120 hours in which you will become part of a team of the highest level in the nursing area of Assisted Reproduction"

You will work on updating your knowledge in all areas: operating room, laboratory, consultation and pharmacology, in order to elevate your praxis to the most avant-garde and sophisticated practice"

In this Hybrid Master's Degree, of a professionalizing nature and hybrid learning modality, the program is aimed at updating nursing professionals who perform their functions in Reproduction units, and who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge into clinical practice, and the theoretical-practical elements will facilitate the updating of knowledge and allow decision-making in the management of infertile patients.

Thanks to its multimedia content elaborated with the latest educational technology, it will allow the nursing professional to acquire situated and contextual learning, that is, a simulated environment that will provide immersive learning programmed to train in real situations. The design of this program is based on Problem-Based Learning, by means of which the student will have to try to solve the different professional practice situations that will arise throughout the program. To do so, they will be assisted by an innovative interactive video system created by recognized experts.

The theoretical section of this program includes 1,500 hours of the best multidisciplinary content, from the syllabus to detailed videos, research articles, complementary readings and much more!

A unique opportunity to implement in your practice the most innovative and effective Assisted Reproduction techniques in the field of fertility and gynecology nursing.

02

Why Study this Hybrid Master's Degree?

In the search for adequate training, the professional finds himself in a functional vacuum to immediately put into practice what he has learned. That is why TECH, in order to infuse the professional update in sectors so demanded and necessary for society, such as health, has developed this hybrid learning academic space for its preparation in just 12 months, of which, during 3 weeks will have a face-to-face stay in a clinical center of reference in terms of Assisted Reproduction Service is concerned.

TECH is the only university that offers you the possibility of entering into real clinical environments and maximum demand to deepen, with the help of the best specialists, in the latest advances in Assisted Reproduction"

1. Updating from the latest technology available

Within the Nursing Service in the Assisted Reproduction area there are many necessary equipments to know how to use. The constant scientific and technological advances provide the centers with new technologies that facilitate analysis, therapeutics and the implementation of assisted reproduction techniques. Therefore, the nursing professional must be updated and with this practical space he will be able to get down to work in a more efficient way.

2. Gaining In-Depth Knowledge from the Experience of Top Specialists

Thanks to TECH's commitment to provide quality training, it has chosen a cutting-edge teaching team to design the study material for this program. Likewise, in the practical training stage, you will have an assigned tutor el acompañamiento en cada una de las actividades de and the support of a multidisciplinary team in each of the activities that will help you to achieve your goal more easily.

3. Entering First-Class Clinical Environments

The facilities chosen by TECH for the realization of this eminently practical program, have the prestige and recognition necessary to establish a major work in terms of Assisted Reproduction Service. The student will integrate the procedures together with the most experienced professionals and will be able to identify, wherever he develops his career, the equipment and resources available, which are indispensable to carry out Assisted Reproduction.

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

TECH offers you a program that will allow you to learn and practice the service simultaneously, so you will not be a passive element, but active in the whole procedure. This new learning model, 100% practical, allows you to get in front of state-of-the-art equipment in the field of Assisted Reproduction and, best of all, to complete it in only 3 weeks.

5. Expanding the Boundaries of Knowledge

With this academic experience, nurses are not limited by their geographic location; they can study this program from anywhere they are because it presents a 100% online methodology for the study of all the theoretical content. Likewise, you will have the possibility to develop your knowledge in a practical way in centers of national and international importance. This is how with TECH you will expand your knowledge without limitations and with multiple possibilities of learning with the best specialists in the world.

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

03

Objectives

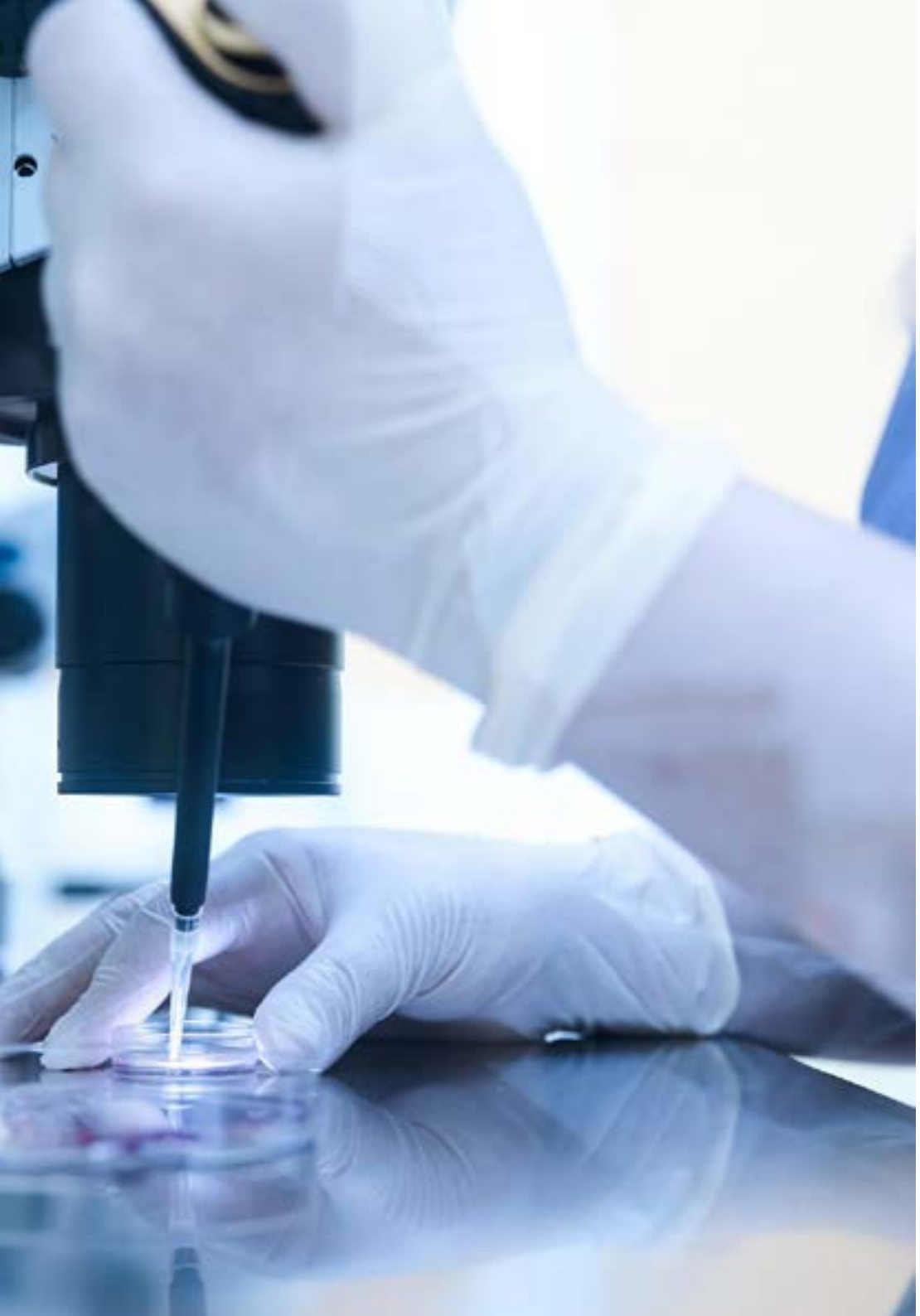
Psychological and emotional support during Assisted Reproduction treatments are almost as important as the service itself. For this reason, and in view of the important role played by nursing specialists in this area, TECH has developed this Hybrid Master's Degree with the aim of enabling professionals in this field to keep up to date with the latest therapeutic developments related to fertility, while perfecting their skills in the use of the most innovative and effective tools and in the clinical accompaniment of the patient.

An academic experience that will immerse you in the new era of diagnosis through the innovations of molecular cytogenetics and massive sequencing"

General Objective

- The development of this Hybrid Master's Degree in Nursing in the Assisted Reproduction Services has been carried out with the aim of providing professionals in this field with the latest information that will allow them to update and expand their specific knowledge of each of the areas of work in the clinical area of fertility and conception. Thanks to this, they will be able to implement the most effective and innovative therapeutic strategies in their practice, facilitating the best action in each case, as well as perfecting their assistance service for the best care throughout the whole process, even if the treatment is not effective

If among your objectives is to update your knowledge in relation to genetic disorders in the infertile couple, this program will provide you with everything you need to achieve it in less time than you expect"



Specific Objectives

Module 1. Anatomy and Physiology of Reproduction

- Update knowledge on the anatomy of the female and male genitalia to lay the foundations of reproduction
- Expand knowledge of neurophysiology and its relationship to ovogenesis and spermatogenesis
- Introduce nurses to a more biological approach to gametogenesis, emphasizing the importance of meiosis and gamete quality
- Understand the process of fertilization and the first steps of embryonic development in order to introduce nurses to the world of embryology
- Analyze the effect of advanced maternal and paternal age on human reproduction

Module 2. Study of Infertility in Women

- Know the importance of anamnesis for the identification of toxic habits, stress, sexual problems and hereditary history related to infertility in women
- Know what the basic initial study of infertility consists of in order to be able to explain it to the patient in clear and simple terms
- Know the complementary tests for the study of women in consultation depending on the specific alterations of each patient in order to individualize each patient depending on the altered factors present
- Know the most frequent disorders in women with infertility

Module 3. Study of Male Infertility

- Know what the initial study of the male consists of in consultation as , well as the complementary explorations or genetic studies that may be requested
- Understand the importance of good semen handling practices
- Be able to perform a complete seminogram of the male
- Be able to process samples for Assisted Reproduction techniques
- Understand what sperm freezing consists of and be able to perform it without complications
- Be able to perform semen washings for HIV, Hepatitis B and Hepatitis C seropositive males, as well as to understand the importance of semen washings and good management, and to know when to recommend them in consultation
- Know the basics of semen donation, both at the consultation and laboratorylevel
- Learn about three of the most widely used sperm selection techniques currently in use, magnetically labeled cell sorting (MACS), intracytoplasmic injection of morphologically selected spermatozoa (IMSI) and selection based on hyaluronic acid binding, and therefore know when to recommend them in consultation
- Know the basics of antioxidant therapy and how to discern which antioxidants have proven efficacy and which do not

Module 4. Genetics and Immunology of Reproduction

- Reinforce basic genetic concepts
- Know the karyotype and its uses
- Broaden knowledge of molecular genetics
- Understand the origin and etiology of genetic factors influencing human fertility
- Discover the different preimplantation genetic diagnosis tests
- Discuss the most current topics in genetics such as nuclear transfer or epigenetics
- Master the immunological factors affecting Assisted Reproduction
- Distinguish the different origins of immunological problems in reproduction and possible treatments

Module 5. Assisted Reproduction Consultation and Donor Bank

- Providing continuous care throughout treatment
- Be able to transmit truthful and reassuring information to the patient, to be able to coordinate teams
- Ability to transmit emotional support, as we are aware of how hard and long this process can be
- Be able to carry out certain delegated activities such as checking serologies, hormone profiles, medical record updates, etc
- Facilitating practice management: materials used in a practice, analysis and tests, and cycle coordination

Module 6. Pharmacology

- Know which are the main folliculogenesis inducers, what are the advantages and disadvantages of each one of them and which are the most widely used at present
- Acquire knowledge about the types of gonadotropins that exist and how treatment results

- Develop knowledge on the management of ovulation inducers
- Acquire a broad knowledge of the hormonal treatments that exist, which are the most commonly used and which are the most effective
- Conduct good health education to teach self-administration of drugs at home
- Know and develop the consequences of ovarian stimulation, and explain what ovarian hyperstimulation syndrome is
- Study the handling and routes of administration of drugs used in Assisted Reproduction
- Promote the participation of nursing personnel during Assisted Reproductiontreatments
- Explain what clomiphene citrate is, in what situations it is used and how it is administered
- Develop what is an aromatase inhibitor and discern its advantages and disadvantages
- Study when gonadotropin analogues are used and in which cases they are used
- Pain management and control after puncture

Module 7. Assisted Reproduction Techniques

- Know the treatments that currently exist in AR and that are appropriate for each patient according to their infertility diagnosis
- Learn from the most basic techniques (AI) to the most complex techniques (IVF/ ICSI) to obtain quality embryos that result in pregnancy
- Discover complementary techniques that help improve fertilization rates and facilitate embryo selection to transfer the best embryo to the patient
- Differentiate between freezing and vitrification, and the possibilities of donation
- Understand traceability as an indispensable tool to avoid errors in the laboratory
- Know other techniques that can help in the diagnosis of the patient

Module 8. The Operating Room and the Assisted Reproduction Laboratory

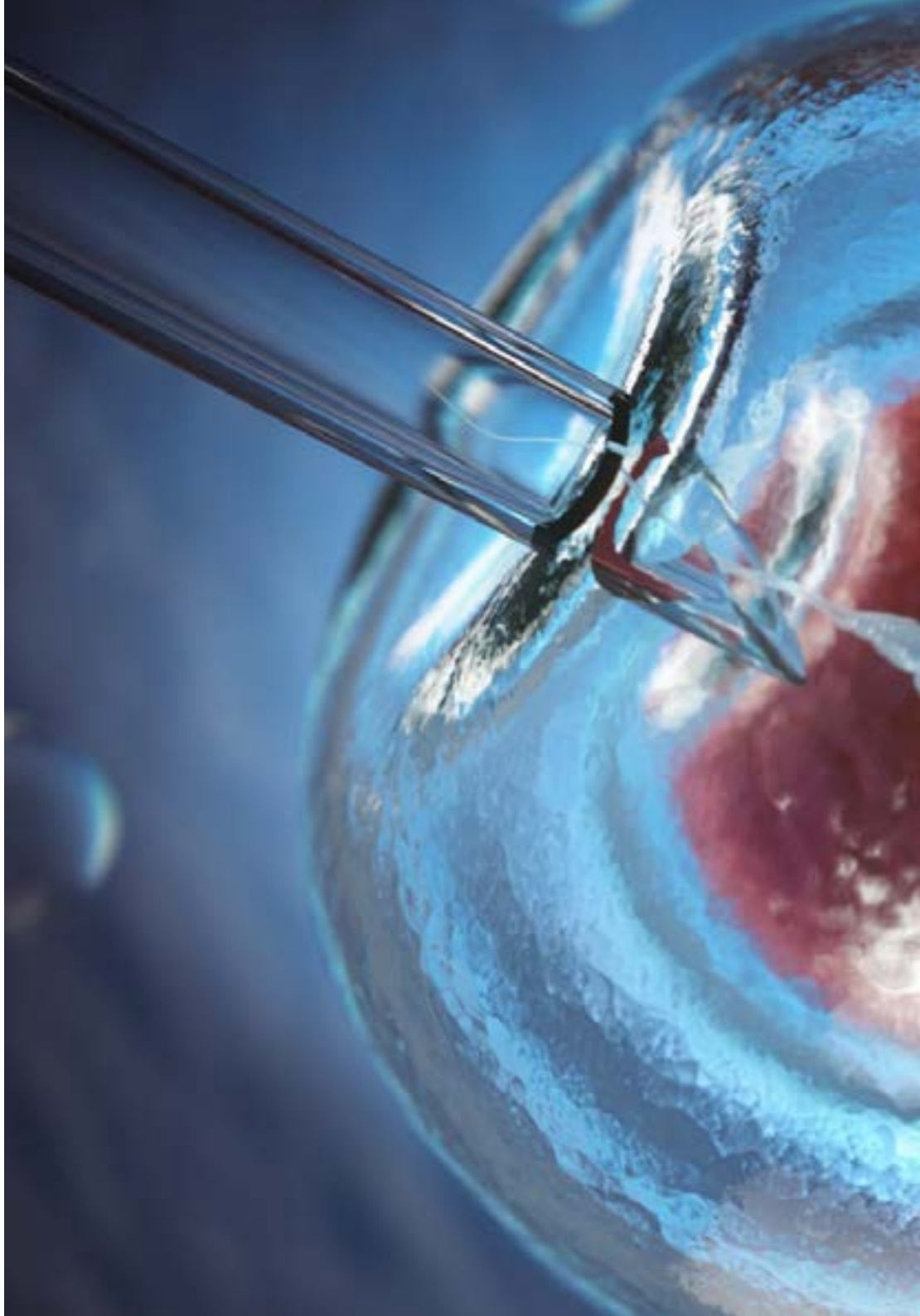
- Know what the role of nursing is in the Assisted Reproduction unit, and which are the surgical areas
- Explain the phases of surgery: preoperative, intraoperative and postoperative
- Acquire knowledge about follicular puncture and oocyte retrieval. What is the technique and equipment needed and what are the main nursingactivities
- Develop how to obtain spermatozoa in patients with azoospermia
- Know the different surgical treatments performed in fertility and which are the most used techniques nowadays
- Know what an Assisted Reproduction laboratory is like, which parts form it and what techniques are performed in each one of them
- Know what are the appropriate environmental conditions of an AR laboratory
- Have knowledge of the hygiene and clothing of laboratory personnel, the cleanliness of the laboratory and know the mechanisms of risk prevention
- Discover the equipment in the laboratory, as well as its function and care
- Know the quality and cleanliness controls of an AR laboratory
- Know the working times of the laboratory in order to understand which are the most favorable needs for the techniques, and therefore perform them at the optimal time, improving teamwork between the operating room and the laboratory, and obtaining the best results

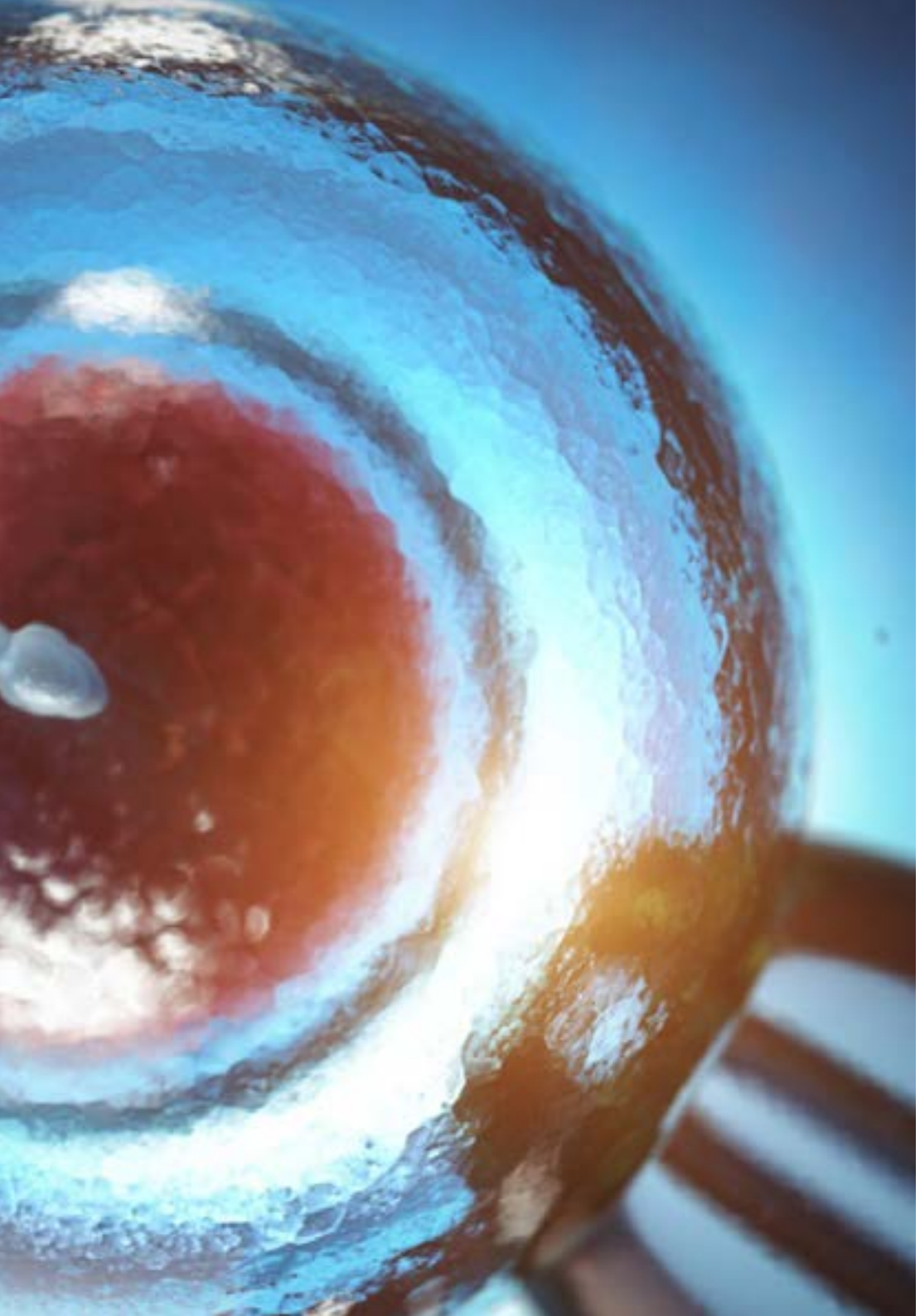
Module 9. Psychological Support and Special Situations in Assisted Reproduction

- Understand the psychological, social, cognitive and behavioral aspects of infertility
- Detect psychological or emotional alterations derived from infertility diagnoses and/or derived from reproduction treatment
- Provide emotional support to the patient throughout the process of Assisted Reproduction
- Develop communication skills to enable a comprehensive approach to infertility counseling and treatment
- Take into consideration special health situations of the beneficiaries of reproductive treatments, which entails the acquisition of different knowledge and therapeutic skills by nursing professionals
- Knowledge of bereavement management and support
- Nutritional advice and follow-up in Assisted Reproduction consultation

Module 10. Legal and Ethical Aspects in Assisted Reproduction

- Know the current legislation on Assisted Reproduction in Spain, being our main objective to know how to transfer all this knowledge to practice and be able to solve legal issues in clinical practice
- Detail in the portfolio of common services provided by the national health system on Assisted Reproduction issues
- Know how to interpret and use correctly each of the consents used in Assisted Reproduction: Who will deliver them? How should they be explained? What should they contain? Using many practical examples to do so
- Explain the rights of users undergoing Assisted Reproduction techniques, including gamete donors





- Study the ethical principles in order to apply them later to multiple situations that may arise in the field of Assisted Reproduction
- Address and discuss, from an ethical and scientific point of view, current issues such as surrogacy, Post-Mortem maternity, advanced maternal age and the influence that religious or cultural beliefs may have on users of Assisted Reproduction techniques
- Generate a debate on access to Assisted Reproduction treatments in private centers: Commercialization of a right?

You will combine theory and professional practice through a demanding and rewarding educational approach"

04

Skills

The design of the syllabus of this Hybrid Master's Degree has been made in such a way that the graduate who accesses it will not only achieve, with total guarantee, to expand and update their knowledge in relation to Assisted Reproduction, but will have the opportunity to improve their professional skills in a practical and protagonist way. In this way, you will be able to keep up to date with the latest therapeutic and clinical management innovations for the different contexts that may arise in this area in a competent manner.

Would you like to be able to offer the best psychological support in special situations thanks to the most innovative therapeutic guidelines? Enroll in this Hybrid Master's Degree and you will be able to achieve it in a guaranteed way"

General Skills

- Be competent in the nursing performance in the Assisted Reproduction Unit
- Know all the protocols and techniques relevant to the nursing practice of Assisted Reproduction
- Know how to work in an interdisciplinary way in the Assisted Reproduction Unit

Take advantage of this unique opportunity to learn from experts from the best clinical centers of reference in Assisted Reproduction"

Specific Skills

- Master the necessary aspects of the anatomy and physiology of human reproduction
- Have knowledge of the endocrinology of the female reproductive system, the menstrual cycle and the particularities of ovogenesis
- Possess knowledge of the anatomy of the male reproductive organs, endocrinology and spermatogenesis
- Understand embryonic development, fertilization and other aspects of human reproduction
- Possess knowledge of the necessary aspects of nursing practice in the field of female infertility
- Know everything about ovarian, uterine and tubal, infectious, genetic and immunological factors and be able to adjust the intervention to these aspects
- Recognize implementation failures and their causes, as well as the special factors that determine them
- Possess knowledge of the aspects of male infertility necessary for nursing practice
- Recognize which are the diagnostic tests in male infertility and how they are performed
- Know the processes of sample collection and analysis
- Know which oral therapies can be used
- Know the relevant aspects for Assisted Reproduction nursing in the field of genetics and reproductive immunology
- Know how to proceed in the field of basic cytogenetics
- Describe chromosomal abnormalities
- Recognizing genetic disorders that affect infertile couples

- Operating in the preimplantation genetic diagnosis environment (PGT : Preimplantation Genetic Testing)
- Take into account the importance of the immunological factor in Assisted Reproduction
- Have the capacity to act appropriately in the Assisted Reproduction and donor bank consultation
- Schedule, draw and interpret blood tests for infertility testing
- Know how to perform the intervention in the field of Patient Education
- Be able to run the management area in the nursing environment in the Assisted Reproduction unit
- Follow-up of the patient after BHCG result
- Work in the donor bank in all fields of nursing care
- Working with SIRHA: Assisted Human Reproduction Information System
- Know the protocols, uses and applications of pharmacology in Assisted Reproduction: folliculogenesis inducers, ovulation inducers, other hormonal treatments
- Know the commercial presentations of the pharmaceutical products
- Know the proper anesthetic management in AR
- Recognize each one of the Assisted Reproduction techniques: artificial insemination
- Know how to perform preimplantation genetic testing, embryo transfer, freezing and vitrification
- Know the donation protocols, ROPA method, traceability, bio-surveillance
- Be able to perform all operating room nursing duties
- Act at the time of intervention: follicular puncture, embryo transfer, sperm collection in cases of azoospermia and other surgical interventions in the field of infertility
- Know all aspects of the laboratory in Assisted Reproduction: structure, conditions, etc
- Have the ability to provide psychological support to the patient being treated in the Assisted Reproduction unit
- Have the ability to act in the case of patients in special situations
- Know how to plan food during Assisted Reproduction
- Recognizing and accompanying bereavement in Assisted Reproduction
- Know what are the new alternatives in AR
- Recognize the legal and ethical aspects of Assisted Reproduction
- Be able to describe the portfolio of services offered by our national social security system in Assisted Reproduction
- Reflect on ethical issues and approaches
- Be up-to-date on research advances in Assisted Reproduction

05

Course Management

The faculty of this Hybrid Master's Degree is composed of a teaching team of the highest professional level. It is a group of nurses and doctors specialized in the area of Assisted Reproduction with a wide and extensive work experience in the clinical management of various cases related to infertility or conception problems. Additionally, all of them are currently working in reference centers, so they know, apart from the latest therapeutic information, the tools and techniques that have had the best results so far.

You will be able to contact the teaching team through the Virtual Campus to resolve any questions you may have during the course of this incredible academic experience"

Management

Ms. Agra Bao, Vanesa

- Nurse Operating room supervisor at Eva Fertility Clinics
- Nurse in EVA FERTILITY-DORSIA
- Nurse at MEDYCSA
- Graduate in Nursing from the University of La Coruña
- Official Master's Degree in Occupational Risk Prevention from USP-CEU
- Master's Degre in Physical Activity and Health from Miguel de Cervantes University
- Expert in Legal Nursing by the UNED
- University Expert in Surgical Anesthesiology for Nursing at CEU Cardenal Herrera University
- Biosafety and Occupational Risk Prevention in Microbiology Laboratories in SEM
- Biosafety Laboratories and Research Animal Facilities with Level 3 Biocontainment in SEGLA
- Nursing action in Traumatic Emergencies, Intoxications and other urgent situations in DAE

Ms. Boyano Rodríguez, Beatriz

- Senior Embryologist
- Senior Embryologist at Bernabéu Institute
- Embryologist at EVA Clinics
- Graduate in Biology from the University of Salamanca
- Lecturer in postgraduate university studies
- Master's Degree in Biotechnology of Assisted Human Reproduction from the University of Valencia
- Postgraduate degree in Medical Genetics from the University of Valencia
- Expert in Clinical Genetics at the University of Alcalá de Henares
- Member of ESHRE, ASEBIR, the Spanish Society of Human Genetics and the Official College of Biologists of the Community of Madrid

Professors

Ms. Martín Pascual, Alba

- Senior Embryologist
- Laboratory Manager at HM Montepríncipe
- Senior Embryologist in the IVF and Andrology Laboratory of the EVA Clinic
- Embryologist at the Institute for the Study of Infertility
- Degree in Biology from the Complutense University of Madrid
- Master's Degree in Biology and Technology of Mammalian Reproduction from the University of Murcia

Ms. Fernández Rubio, Marta

- Nurse Expert in Maternity Hospitalization
- Nurse in Maternity Hospitalization at Nuevo Belén Hospital
- Operating Room Nurse at San Francisco De Asís Hospital
- Operating Room Nurse at Dorsia Clinic
- Diploma in Nursing from the San Pablo CEU University
- Master's Degree in Emergency and Intrahospital Critical Care from San Pablo University CEU
- Courses in numerous specialties related to Reproductive Nursing

Dr. Aldama, Perla

- Gynecologist with expertise in Assisted Reproduction
- Gynecologist expert in Assisted Reproduction at EVA Clinics
- Author of scientific publications related to her medical specialty
- Master's Degree in the Assisted Reproduction Laboratory from the Complutense University of Madrid

Ms. De Riva García, María

- Embryologist
- Embryology at Puerta De Asturias University Hospital
- Laboratory Manager in Ginequalitas Reproduction
- Embryologist at EVA Clinics
- Embryologist at Ginequalitas Reproduction
- Graduate in Biology from the University of Alcalá
- Master's Degree on Theoretical Basis and Laboratory Procedures of Assisted Reproduction from Global IVI Education

Ms. Serrano Valero, Erika

- Nurse with experience in Gynecology
- Nurse in the Radiology Department of the University Hospital of La Paz
- Nurse in the Emergency Department of the Móstoles University Hospital
- Gynecology Nurse at Puerta de Hierro University Hospital
- Diploma in Nursing from the University of Alcalá de Henares
- University Specialist in Extrahospital Emergency Nursing at the Rey Juan Carlos University

Ms. Fernández Rubio, Sara

- Nurse
- Nurse at the Ramón y Cajal Hospital
- Nurse at La Paz University Hospital
- Nurse in HM Norte Sanchinarro
- Graduate in Nursing from San Pablo CEU University
- Expert in Care of Adult Patients in Life-Threatening Situations by CODEM
- Numerous FUNDEN Postgraduate Certificate courses in nursing care

Ms. Pulido Morcillo, Sara

- ICU and Emergency Room Supervisor at Hospital Quirónsalud Valle del Henares
- Nurse in Assisted Reproduction Consultation at EVA Clinics
- Nurse in the UCI Department at Quironsalud Hospital San José
- Nurse the UCI at Hospital La Luz
- Graduate in Nursing from Alfonso X El Sabio University
- Master's Degree in Surgery from CEU Cardenal Herrera University
- Master's Degree in Intensive Care from the CEU Cardenal Herrera University

Having the support of a diverse teaching team, but specialized in Assisted Reproduction will allow you to obtain a critical and realistic view of the current context of this area"

06

Educational Plan

The theoretical section of this program has been designed based on the effective and innovative Relearning methodology, which consists of the reiteration of the most important concepts throughout the syllabus. In this way, the graduate does not have to invest extra hours in memorizing, but attends a natural and progressive updating of their knowledge. Additionally, this pedagogical strategy is supported by the inclusion of diverse additional material, thanks to which you can contextualize the information and delve deeper into the modules you consider most relevant. All this in a 100% online way and through a Virtual Campus designed based on the most innovative and sophisticated academic technology.

A program that adapts to you and your needs: thanks to the additional material that you will find in the Virtual Campus, you will be able to expand each section of the syllabus in a personalized way"

Module 1. Anatomy and Physiology of Reproduction

1.1. Anatomy of the Female Reproductive Organs
- 1.1.1. Introduction
- 1.1.2. External Female Genitalia
  - 1.1.2.1. Vulva
  - 1.1.2.2. Mons Pubis
  - 1.1.2.3. Labia Majora
  - 1.1.2.4. Labia Minora
  - 1.1.2.5. Vaginal Vestibule
  - 1.1.2.6. Clitoris
  - 1.1.2.7. Vestibular Bulbs
- 1.1.3. Internal Female Genitalia
  - 1.1.3.1. Vagina
  - 1.1.3.2. Uterus
  - 1.1.3.3. Fallopian Tubes
  - 1.1.3.4. Ovaries

1.2. Endocrinology of the Female Reproductive System
- 1.2.1. Introduction
- 1.2.2. The Hypothalamus
  - 1.2.2.1. GnRH
- 1.2.3. Pituitary Gland
  - 1.2.3.1. FSH and LH
- 1.2.4. Steroid Hormones
  - 1.2.4.1. Introduction
  - 1.2.4.2. Synthesis
  - 1.2.4.3. Mechanism of Action
  - 1.2.4.4. Estrogens
  - 1.2.4.5. Androgens
  - 1.2.4.6. Progestogens
- 1.2.5. External Modulation: Endorphins and Melatonin
- 1.2.6. GnRH Pulses: Brain-Ovarian Relationship
- 1.2.7. GnRH Agonists and Antagonists

1.3. Menstrual Cycle
- 1.3.1. Menstrual Cycle
- 1.3.2. Biochemical Indicators of the Menstrual Cycle
  - 1.3.2.1. Hormones in Basal State
  - 1.3.2.2. Ovulation
  - 1.3.2.3. Evaluation of Ovarian Reserve. Antimüllerian Hormone
- 1.3.3. Ultrasound Indicators of the Menstrual Cycle
  - 1.3.3.1. Follicle Count
  - 1.3.3.2. Endometrial Ultrasound
- 1.3.4. End of the Reproductive Age
  - 1.3.4.1. Premenopause
  - 1.3.4.2. Menopause
  - 1.3.4.3. Post-menopause

1.4. Ovogenesis (Folliculogenesis and Ovulation)
- 1.4.1. Meiosis. From the Oogonia to the MII Oocyte
- 1.4.2. Types of Follicles and their Relation to Ovogenesis. Follicular Dynamics
- 1.4.3. Ovarian Recruitment and Ovulation
- 1.4.4. Oocyte MII: Markers of Oocyte Quality
- 1.4.5. In Vitro Oocyte Maturation

1.5. Anatomy of the Male Reproductive Organs
- 1.5.1. External Male Genitalia
  - 1.5.1.1. Testicles
  - 1.5.1.2. Penis
  - 1.5.1.3. Epididymis
  - 1.5.1.4. Vas Deferens
- 1.5.2. Internal Male Genitalia
  - 1.5.2.1. Seminal Vesicles
  - 1.5.2.2. Ejaculatory Duct
  - 1.5.2.3. Prostate
  - 1.5.2.4. Urethra
  - 1.5.2.5. Bulbourethral Glands

1.6. Endocrinology of the Male Reproductive System
- 1.6.1. Testicular Function Regulation
- 1.6.2. Androgen Biosynthesis

1.6.3. Inhibins and Activins
1.6.4. Prolactin
1.6.5. Prostaglandins
1.6.6. Estrogens
1.6.7. Other factors:
1.7. Spermatogenesis
1.7.1. Meiosis
1.7.2. Differences between Ovogenesis and Spermatogenesis
1.7.3. The Seminiferous Tubule
1.7.3.1. Hormones Involved
1.7.3.2. Cell Types
1.7.4. The Blood-Tissue Barrier
1.7.5. Endocrine and Paracrine Control
1.8. Fertilization
1.8.1. Gamete Transport
1.8.2. Gametic Maturation
1.8.3. Gamete Interaction
1.9. Embryonic Development
1.9.1. Zygote Formation
1.9.2. First Divisions
1.9.3. Blastocyst Formation and Implantation
1.9.4. Gastrulation: Formation of Mesoderm
1.9.4.1. Notochord Formation
1.9.4.2. Establishment of Body Axes
1.9.4.3. Setting Cellular Destinations
1.9.4.4. Trophoblast Growth
1.9.5. Embryonic Period or Organogenesis Period
1.9.5.1. Ectoderm
1.9.5.2. Mesoderm
1.9.5.3. Endoderm
1.10. Effect of Age on the Male and Female Reproductive System
1.10.1. Female Reproductive System
1.10.2. Male Reproductive system

Module 2. Study of Infertility in Women

2.1. Initial Study
2.1.1. Introduction
2.1.2. Principles of the Study by Factors
2.1.3. Medical History
2.1.4. Physical Examination
2.1.5. Basic Infertility Studies
2.1.6. Complementary Studies According to Altered Factor
2.2. Ovarian Factor
2.2.1. Age
2.2.1.1. Age and Ovarian Reserve
2.2.1.2. Early Ovarian Failure
2.2.1.3. Studies to Assess Ovarian Reserve
2.2.1.3.1. AMH
2.2.1.3.2. RFA
2.2.1.3.3. Other Hormones
2.2.2. Anovulation
2.2.2.1. What is Anovulation?
2.2.2.2. Clinical Manifestations
2.2.2.3. Importance of the Luteal Phase
2.2.2.4. Causes
2.2.2.4.1. Polycystic Ovarian Syndrome
2.2.2.4.2. Most Frequent Hormonal Disorders
2.2.2.4.3. Other Causes
2.2.2.5. Studies to Assess Ovulation
2.2.2.5.1. Gynecological Hormonal Profile
2.2.2.5.2. Other Hormones
2.2.2.5.2.1. Thyroid Hormones
2.2.2.5.2.2. Prolactin
2.2.2.5.2.3. Androgens
2.2.2.5.3. Luteal Phase Progesterone

2.3. Uterine and Tubal Factor
- 2.3.1. Uterus
  - 2.3.1.1. Uterus and Endometrium
  - 2.3.1.2. Müllerian Malformations
  - 2.3.1.3. Myomas and Polyps
  - 2.3.1.4. Asherman's Syndrome
  - 2.3.1.5. Uterine Factor and Implantation Failure
  - 2.3.1.6. Uterine Factor and Recurrent Abortion
- 2.3.2. Fallopian Tubes
  - 2.3.2.1. Tubal Obstruction
    - 2.3.2.1.1. Pathology
    - 2.3.2.1.2. Surgical
    - 2.3.2.1.3. Endometriosis
    - 2.3.2.1.4. Others
- 2.3.3. Studies
  - 2.3.3.1. 2D and 3D Ultrasound Ecography
  - 2.3.3.2. Hysteroscopy and Others
    - 2.3.3.2.1. Hysteroscopy
    - 2.3.3.2.2. Hysterosalpingography
    - 2.3.3.2.3. Hysterosonography
    - 2.3.3.2.4. Hysterolaparoscopy
    - 2.3.3.2.5. MRI

2.4. Infectious Factor
- 2.4.1. Infections and Infertility
- 2.4.2. Most Frequent Infections
- 2.4.3. Pelvic Inflammatory Disease
- 2.4.4. Hydrosalpinx
- 2.4.5. Studies
  - 2.4.5.1. Crops and Specialty Crops
  - 2.4.5.2. PCR and Others

2.5. Genetic Factor
- 2.5.1. Genetics Today
- 2.5.2. Most Frequent Genetics Disorders
  - 2.5.2.1. Turner Syndrome
  - 2.5.2.2. Fragile X Syndrome
  - 2.5.2.3. Hereditary Thrombophilias
  - 2.5.2.4. Other Mutations
- 2.5.3. Screening Studies

2.6. Immunological Factor
- 2.6.1. Immune System and Fertility
- 2.6.2. Main Disorders
  - 2.6.2.1. Antiphospholipid Antibody Syndrome
  - 2.6.2.2. Systemic Lupus Erythematosus (SLE)
  - 2.6.2.3. Others
- 2.6.3. Key Immunological Tests

2.7. Endometriosis
- 2.7.1. Endometriosis Today
- 2.7.2. Implications in Fertility
- 2.7.3. The Patient with Endometriosis
- 2.7.4. Clinical and Laboratory Study

2.8. Implantation Failure and Recurrent Abortion
- 2.8.1. Failure of Implantation
  - 2.8.1.1. Definition
  - 2.8.1.2. Main Causes
  - 2.8.1.3. Study
- 2.8.2. Recurrent Abortion
  - 2.8.2.1. Definition
  - 2.8.2.2. Main Causes
  - 2.8.2.3. Study

2.9. Special considerations
- 2.9.1. Cervical Factor
  - 2.9.1.1. Importance of Cervical Physiology

2.9.2. Postcoital Test
2.9.2.1. Sexology
2.9.2.2. Vaginismus
2.9.3. Psychological Causes
2.9.4. Infertility of Unknown Origin
2.9.4.1. Definition
2.9.4.2. What Should Be Done?
2.9.5. Integral Approach
2.10. Conclusions

Module 3. Study of Male Infertility

3.1. Initial Study
3.1.1. Objectives
3.1.2. When Should it be Done?
3.1.3. Minimum Evaluation
3.1.4. Optimal Evaluation
3.1.5. Medical History
3.1.6. Physical Examination
3.2. Complementary Evaluations
3.2.1. Sperm Function Tests
3.2.2. Hormonal Determinations
3.2.3. Ultrasonography and Scrotal Doppler Ultrasonography
3.2.4. Transrectal Ultrasound
3.2.5. Bacteriological Study of Semen
3.2.6. Post-Orgasm Urinalysis
3.3. Genetic Studies
3.3.1. Karyotype
3.3.2. Microdeletions Yq
3.3.3. CFTR Mutations
3.3.4. Meiotic Chromosome Studies
3.3.5. FISH of Spermatozoa
3.4. Seminogram
3.4.1. Basic Considerations
3.4.2. Proper Sample Handling
3.4.3. Sample Collection
3.4.3.1. Preparation
3.4.3.2. Collection for Diagnosis
3.4.3.3. Collection for Use in Assisted Reproduction
3.4.3.4. Collection for Microbiological Analysis
3.4.3.5. Home Collection
3.4.3.6. Collection with Preservative
3.4.4. Initial Macroscopic Examination
3.4.4.1. Liquefaction
3.4.4.2. Viscosity
3.4.4.3. Appearance
3.4.4.4. Volume
3.4.4.5. pH
3.4.5. Initial Microscopic Examination
3.4.5.1. How to Get a Representative Sample?
3.4.5.2. Sample Quantity
3.4.5.3. Aggregation
3.4.5.4. Agglutination
3.4.5.5. Presence of Cellular Elements Other than Spermatozoa
3.4.6. Motility
3.4.7. Vitality
3.4.8. Concentration
3.4.9. Counting of Cells Other than Sperm Cells
3.4.10. Sperm Morphology
3.4.11. Presence of Leukocytes in Semen
3.4.12. Antispermatozoa Antibodies Test
3.4.13. Automated Analysis
3.5. Analysis and Processing of Samples for Assisted Reproduction Techniques (ART)
3.5.1. Washing
3.5.2. Swim-up
3.5.3. Density Gradients

3.6. Sperm Freezing
- 3.6.1. Indications
- 3.6.2. Cryoprotectors
- 3.6.3. Semen Freezing Techniques
- 3.6.4. Storage Containers

3.7. Semen Washing for HIV, Hepatitis B and Hepatitis C Seropositive Males
- 3.7.1. Hepatitis B
- 3.7.2. HIV
- 3.7.3. Hepatitis C:
- 3.7.4. General Considerations

3.8. Sperm Donation
- 3.8.1. General Aspects
- 3.8.2. Indications
- 3.8.3. Sperm Donor Considerations
- 3.8.4. Recommended Tests
- 3.8.5. Anonymity
- 3.8.6. Choosing the Right Donor
- 3.8.7. Risk
- 3.8.8. Cessation of Donation

3.9. Complementary Sperm Selection Techniques
- 3.9.1. MACS (Magnetically Marked Cell Sorting)
  - 3.9.1.1. Biological Basis of the Technique
  - 3.9.1.2. Indications
  - 3.9.1.3. Advantages and Disadvantages
- 3.9.2. IMSI (Intracytoplasmic Injection of Morphologically Selected Spermatozoa)
  - 3.9.2.1. Procedure
  - 3.9.2.2. Indications
  - 3.9.2.3. Advantages and Disadvantages
- 3.9.3. Selection Based on Binding to Hyaluronic Acid
  - 3.9.3.1. Procedure
  - 3.9.3.2. Indications
  - 3.9.3.3. Advantages and Disadvantages

3.10. Oral Therapy Use of Antioxidants
- 3.10.1. Antioxidant Concept
- 3.10.2. Reactive Oxygen Species (ROS)
- 3.10.3. Factors Leading to Increased ROS in Semen
- 3.10.4. Damage Caused by Increased ROS in Spermatozoa
- 3.10.5. Antioxidant System in Semen
  - 3.10.5.1. Enzymatic Antioxidants
  - 3.10.5.2. Superoxide Dismutase
  - 3.10.5.3. Catalase
  - 3.10.5.4. Nitric Oxide Synthase
  - 3.10.5.5. Glutathione S-Transferase
  - 3.10.5.6. Peroxiredoxin
  - 3.10.5.7. Thioredoxins
  - 3.10.5.8. Glutathione Peroxidase
- 3.10.6. Exogenous Supplementation
  - 3.10.6.1. Omega 3 Fatty Acids
  - 3.10.6.2. Vitamin C
  - 3.10.6.3. Coenzyme Q10
  - 3.10.6.4. L-Carnitine
  - 3.10.6.5. Vitamin E
  - 3.10.6.6. Selenium
  - 3.10.6.7. Zinc
  - 3.10.6.8. Folic Acid
  - 3.10.6.9. L-Arginine
- 3.10.7. Conclusions

Module 4. Genetics and Immunology of Reproduction

4.1. Basic Cytogenetics: the Importance of Karyotyping
- 4.1.1. DNA and its Structure
  - 4.1.1.1. Genes
  - 4.1.1.2. Chromosomes
- 4.1.2. The Karyotype

4.1.3. Uses of Karyotyping: Prenatal Diagnosis
4.1.3.1. Amniocentesis
4.1.3.2. Chorionic Villus Biopsy
4.1.3.3. Abortion Analysis
4.1.3.4. Meiosis Studies
4.2. The New Era of Diagnostics: Molecular Cytogenetics and Massive Sequencing
4.2.1. FISH
4.2.2. CGH arrays
4.2.3. Massive Sequencing
4.3. Origin and Etiology of Chromosomal Abnormalities
4.3.1. Introduction
4.3.2. Classification According to Origin
4.3.2.1. Numeric
4.3.2.2. Structural
4.3.2.3. Mosaicism
4.3.3. Classification According to Etiology
4.3.3.1. Autosomal
4.3.3.2. Sexual
4.3.3.3. Polyploidy and Haploidy
4.4. Genetic Disorders in the Infertile Couple
4.4.1. Genetic Disorders in Women
4.4.1.1. Hypothalamic Origin
4.4.1.2. Pituitary Origin
4.4.1.3. Ovarian Origin
4.4.1.3.1. Chromosomal Alterations
4.4.1.3.1.1. X Chromosome Total Deletion: Turner Syndrome
4.4.1.3.1.2. Partial Deletion of the X Chromosome
4.4.1.3.1.3. X Chromosome Translocations and Autosomes
4.4.1.3.1.4. Others
4.4.1.4. Monogenic Alterations
4.4.1.4.1. X-Fragile
4.4.1.5. Hereditary Thrombophilias
4.4.2. Genetic Disorders in Men
4.4.2.1. Numerical Alterations: Klineffelter's Syndrome
4.4.2.2. Robertsonian Translocations
4.4.2.3. CFTR Mutation
4.4.2.4. Microdeletions in the Y Chromosome
4.5. Preimplantation Genetic Diagnosis (PGT): Preimplantation Genetic Testing)
4.5.1. Introduction
4.5.2. Embryo Biopsy
4.5.3. Indications
4.5.4. Genetic Diagnosis for Monogenic Diseases (PGT-M)
4.5.4.1. Carrier Studies
4.5.5. Genetic Diagnosis for Structural Abnormalities
4.5.5.1. Numerical (Aneuploidies; PGT-A)
4.5.5.2. Structural (PGT-SR)
4.5.6. Combined Genetic Diagnosis
4.5.7. Limitations
4.5.8. Mosaic Embryos as a Special Case
4.5.9. Non-Invasive Preimplantational Genetic Diagnosis
4.6. Babies with Three Genetic Progenitors, Nuclear Transfer in Mitochondrial Diseases
4.6.1. Mitochondrial DNA
4.6.2. Mitochondrial Diseases
4.6.3. Donor Cytoplasmic Transfer
4.7. Epigenetics
4.7.1. General Concepts
4.7.2. Epigenetic Modifications
4.7.3. Genetic Imprinting
4.8. Genetic Studies in Donors
4.8.1. Recommendations
4.8.2. Carrier Matching
4.8.3. Carrier Panels
4.9. The Immunological Factor in Assisted Reproduction
4.9.1. General Aspects
4.9.2. The Immune System in Women in Constant Change
4.9.3. Immune Cell Population in the Female Reproductive System

4.9.3.1. Regulation of T-lymphocyte Populations
4.9.3.2. Cytokines
4.9.3.3. Female Hormones
4.9.4. Infertility of Autoimmune Origin
4.9.4.1. Antiphospholipid Syndrome
4.9.4.2. Antithyroid Antibodies
4.9.4.3. Anti -Nuclear Antibodies
4.9.4.4. Anti-Ovarian and Anti-FSH Antibodies
4.9.4.5. Anti-Sperm Antibodies
4.9.5. Infertility of Alloimmune Origin, the Contribution of the Fetus
4.9.5.1. The Embryo as Antigen
4.9.5.2. Implantation Failure of Euploid Embryos
4.9.5.2.1. NK Cells
4.9.5.2.2. T-Helpers
4.9.5.2.3. Autoantibodies
4.9.6. The Role of Sperm and Spermatozoa
4.9.6.1. T-Lymphocyte Regulation
4.9.6.2. Seminal Fluid and Dendritic Cells
4.9.6.3. Clinical Relevance
4.10. Immunotherapy and Special Situations
4.10.1. Introduction
4.10.2. Aspirin and Heparin
4.10.3. Corticosteroids
4.10.4. Antibiotic Therapy
4.10.5. Colony Growth Factors
4.10.6. Intravenous Fat Emulsions
4.10.7. Intravenous Immunoglobulins
4.10.8. Adalimumab
4.10.9. Peripheral Mononuclear Cells
4.10.10. Seminal Plasma
4.10.11. Antibody-Free Semen Preparations
4.10.12. Tacrolimus
4.10.13. Risks and Benefits
4.10.14. Conclusions
4.10.15. Special Situations: Endometriosis
4.10.16. Special Situations - Chlamydia Trachomatis Infection

Module 5. Assisted Reproduction Consultation and Donor Bank

5.1. Importance of the Nurse in the Assisted Reproduction Clinic
5.1.1. Nursing Consultation. An Emerging Requirement
5.1.2. Fields of Work: Assistance, Management and Education
5.1.3. The Integral Continuum of Care
5.2. Care Area. Follow-Up Consultation
5.2.1. Patient Care in Stimulation Cycles
5.2.2. Folliculometry
5.2.3. Cytology
5.3. Blood Tests for Fertility Study. Programming, Interpretation and Extraction
5.3.1. Hypophyseal Hormones or Gonadotropins
5.3.1.1. FSH
5.3.1.2. LH
5.3.1.3. Prolactin
5.3.1.4. TSH
5.3.2. Ovarian Hormones
5.3.2.1. Estradiol
5.3.2.2. Progesterone
5.3.2.3. Antimullerian (HAM)
5.3.3. Other Hormones
5.3.3.1. Free Triiodothyronine (T3)
5.3.3.2. Free Thyroxine (T4)
5.3.3.3. Total Testosterone (T)
5.3.3.4. Inhibin B
5.3.4. Implantation Failure Study. Interpretation and Extraction
5.3.4.1. Definition
5.3.4.2. Immunological Profile
5.3.4.3. Thrombophilias
5.3.4.4. Endometrial Biopsy
5.3.4.5. Endocervical and Vaginal Culture

5.3.5. Serologies. Interpretation and Extraction
5.3.5.1. Introduction and Necessity
5.3.5.2. HBV
5.3.5.3. HCV
5.3.5.4. HIV
5.3.5.5. Syphilis (RPR)
5.3.5.6. Rubella
5.3.5.7. Toxoplasmosis
5.3.6. Karyotypes
5.4. Patient Education Area
5.4.1. Effective Communication
5.4.2. Basic Hygienic-Dietetic Measures. Importance of BMI
5.4.3. Self-Administration of Medications
5.5. Management Area
5.5.1. Medical History
5.5.2. Informed Consents
5.5.3. Gamete Request
5.5.3.1. Male Gamete Petition
5.5.3.2. Female Gamete Petition
5.5.4. Transfer of Genetic Material
5.6. Patient Follow-Up after BHCG Result
5.6.1. Introduction. Interpretation of the Result
5.6.2. First Consultation after BHCG Result
5.6.2.1. Negative Result
5.6.2.2. Positive Result
5.6.3. Food Education for Pregnant Women
5.6.4. Follow-Up of the Pregnant Woman. Medication and Ultrasound Follow-Up. High
5.6.5. Obstetrical Control after Delivery
5.7. Donor Bank
5.7.1. Donor Requirements. Testing and Compatibility. Importance of Blood Type
5.7.2. Limits on the Number of Stimulations and/or Donations
5.7.3. Limit on the Number of Pregnancies
5.7.4. International Donations
5.7.5. Anonymity
5.7.6. Financial Compensation
5.7.7. Donor Registration
5.7.8. Additional Tests
5.8. SIRHA: Assisted Human Reproduction Information System
5.8.1. Introduction
5.8.2. Data Insertion
5.8.3. National Donor Registry
5.8.4. National Registry of Recipients
5.9. Frequently Asked Questions
5.10. Conclusions

Module 6. Pharmacology

6.1. Folliculogenesis Inducer: Clomiphene Citrate
6.1.1. Introduction
6.1.2. Definition
6.1.3. Mechanism of Action
6.1.4. Administration and Use
6.1.5. Side Effects
6.1.6. Advantages and Disadvantages
6.1.7. Results
6.2. Induction of Folliculogenesis with Gonadotropins
6.2.1. Introduction and Indications
6.2.2. Types
6.2.2.1. Follicle Stimulants
6.2.2.2. Corpus Luteum Stimulants
6.2.3. Stimulation with Increasing or Decreasing Doses
6.2.4. Treatment Results
6.2.5. Complications
6.2.6. Instruction in Self-Administration
6.3. Ovulation Inducers
6.3.1. Human Chorionic Gonadotropin (hCG) and Recombinant Chorionic Gonadotropin
6.3.2. Human Menopausal Gonadotropin (hMG)
6.3.3. Recombinant Follicle Stimulating Hormone (FSH)
6.3.4. Recombinant Luteinizing Hormone (LH)
6.3.5. GnRH Agonists

6.4. Other Hormonal Treatments
- 6.4.1. Hypothalamic Gonadotropin-Releasing Hormone (GnRH)
  - 6.4.1.1. Introduction
  - 6.4.1.2. Mechanism of Action
  - 6.4.1.3. Administration Guideline
  - 6.4.1.4. Complications
- 6.4.2. Aromatase Inhibitors
  - 6.4.2.1. Definition and What It Is Used For
  - 6.4.2.2. Mechanism of Action and Mode of Use
  - 6.4.2.3. Administration Guideline
  - 6.4.2.4. Types
  - 6.4.2.5. Advantages and Disadvantages

6.5. Use of Gonadotropin Analogues in Assisted Reproduction
- 6.5.1. Agonists
  - 6.5.1.1. Introduction and Main Agonists
  - 6.5.1.2. Origin, Chemical Structure and Pharmacodynamic Properties
  - 6.5.1.3. Pharmacokinetics and Method of Administration
  - 6.5.1.4. Effectiveness
- 6.5.2. Antagonists
  - 6.5.2.1. Types and Mechanism of Action
  - 6.5.2.2. Form of Administration
  - 6.5.2.3. Pharmacokinetics and Pharmacodynamics

6.6. Other Coadjuvant Pharmaceutical Products Used in Assisted Reproduction
- 6.6.1. Insulin-Sensitizing Drugs: Metformin
- 6.6.2. Corticoids
- 6.6.3. Folic Acid
- 6.6.4. Estrogens and Progesterone
- 6.6.5. Oral Contraceptives

6.7. Pharmacological Support of the Luteal Phase in In Vitro Fertilization
- 6.7.1. Introduction
- 6.7.2. Ways to Treat Luteal Phase Deficit
  - 6.7.2.1. Luteal Support with hCG
  - 6.7.2.2. Luteal Phase Supplementation with Progesterone
  - 6.7.2.3. Luteal Phase Supplementation with Estrogens
  - 6.7.2.4. Luteal Phase Maintenance with GnRH Agonists
- 6.7.3. Controversies
- 6.7.4. Conclusions

6.8. Complications of Ovarian Stimulation: Ovarian Hyperstimulation Syndrome (OHSS)
- 6.8.1. Introduction
- 6.8.2. Pathophysiology
- 6.8.3. Symptomatology and Classification
- 6.8.4. Prevention
- 6.8.5. Treatment

6.9. Commercial Presentations in Fertility Treatments
- 6.9.1. Ovitrelle®, Elenva®, Ovaleap®, Porgoveris®, Bemfola®, Monopur®, Gonal®, Puregon®, Fostipur®, HMG-Lepori®, Decapeptyl®, Cetrecide®, Orgaluntan®

6.10. Anesthetic Management in Assisted Reproduction
- 6.10.1. Introduction
- 6.10.2. Local Anesthesia
- 6.10.3. Opioids
- 6.10.4. Benzodiazepines
- 6.10.5. Inhalation and Intravenous General Anesthesia: Nitrous Oxide, Halogenated and Propofol
- 6.10.6. Regional Anesthesia
- 6.10.7. Conclusions

Module 7. Assisted Reproduction Techniques

7.1. Artificial Insemination
- 7.1.1. Definition
- 7.1.2. Types
- 7.1.3. Indications
- 7.1.4. Requirements
- 7.1.5. Procedure
- 7.1.6. IVF/ICSI Results and Pregnancy Probability
- 7.1.7. Definition and Differences
- 7.1.8. IVF/ICSI Indications
- 7.1.9. Requirements
- 7.1.10. Advantages and Disadvantages

7.1.11. Probability of Pregnancy
7.1.12. Procedure
7.1.12.1. Oocyte Puncture
7.1.12.2. Oocyte Evaluation
7.1.12.3. Oocyte Insemination (IVF/ICSI)
7.1.12.3.1. Other Insemination Techniques: IMSI, PICSI, ICSI+MACS, Use of Polarized Light
7.1.12.4. Evaluation of Fertilization
7.1.12.5. Embryo Culture
7.1.12.5.1. Types
7.1.12.5.2. Cultivation Systems
7.1.12.5.3. Time-Lapse Culture Equipment
7.1.13. Possible Risks
7.2. Preimplantation Genetic Test (PGT)
7.2.1. Definition
7.2.2. Types
7.2.3. Indications
7.2.4. Procedure
7.2.5. Advantages and Disadvantages
7.3. Embryo Transfer
7.3.1. Definition
7.3.2. Embryo Quality and Selection
7.3.2.1. Transfer Day
7.3.2.2. Number of Embryos to Be Transferred
7.3.3. Assisted Eclosion
7.3.4. Procedure
7.4. Freezing and Vitrification
7.4.1. Differences
7.4.2. Sperm Freezing
7.4.2.1. Definition
7.4.3. Egg Vitrification
7.4.3.1. Definition
7.4.3.2. Procedure
7.4.3.3. Devitrification
7.4.3.4. Advantages: Preservation and Donation
7.4.4. Embryo Vitrification
7.4.4.1. Definition
7.4.4.2. Indications
7.4.4.3. Vitrification Day
7.4.4.4. Procedure
7.4.4.5. Devitrification
7.4.4.6. Advantages
7.4.5. Fertility Preservation (experimental)
7.4.5.1. Ovarian Tissue
7.4.5.2. Testicular Tissue
7.5. Donation
7.5.1. Definition
7.5.2. Types of Donation
7.5.2.1. Egg Donation
7.5.2.1.1. Definition
7.5.2.1.2. Indications
7.5.2.1.3. Types of Ovodonation
7.5.2.1.4. Procedure
7.5.2.1.4.1. Donor Ovarian Puncture
7.5.2.1.4.2. Recipient Endometrial Preparation
7.5.2.2. Egg bank: Storage System
7.5.2.3. Advantages and Disadvantages
7.5.2.4. Sperm Donation
7.5.2.4.1. Procedure
7.5.2.5. Embryo Donation
7.5.2.5.1. Definition
7.5.2.5.2. Indications
7.5.2.5.3. Procedure
7.5.2.5.4. Advantages
7.5.2.6. Double Donation
7.5.2.6.1. Definition
7.5.2.6.2. Indications
7.5.2.6.3. Procedure

7.6. ROPA Method
- 7.6.1. Definition
- 7.6.2. Indications
- 7.6.3. Procedure
- 7.6.4. Legal Requirements

7.7. Traceability
- 7.7.1. Definition
- 7.7.2. Materials
- 7.7.3. Samples
- 7.7.4. Double Check
- 7.7.5. Technological Traceability Systems (*Witness, Gidget*)

7.8. Biovigilance

7.9. Other Techniques
- 7.9.1. Endometrial Receptivity Test (ERA)
- 7.9.2. Study of the Vaginal Microbiome

Module 8. The Operating Room and the Assisted Reproduction Laboratory

8.1. The Surgical Unit
- 8.1.1. Surgical Area Zones
- 8.1.2. Surgical Clothing
- 8.1.3. Role of Nurses in the Assisted Reproduction Unit
- 8.1.4. Waste Management and Environmental Control

8.2. Follicular Puncture for Oocyte Collection
- 8.2.1. Definition
- 8.2.2. Features
- 8.2.3. Procedure and Material Required
- 8.2.4. Nursing Activities: Intraoperative
- 8.2.5. Nursing Activities: Post-Operative
- 8.2.6. Discharge Recommendations
- 8.2.7. Complications

8.3. Embryo Transfer
- 8.3.1. Definition
- 8.3.2. Features
- 8.3.3. Procedure and Material Required
- 8.3.4. Endometrial Preparation: Estrogens and Progesterone
- 8.3.5. Nursing Role during Embryo Transfer
- 8.3.6. Nursing Role after Embryo Transfer
- 8.3.7. Discharge Instructions
- 8.3.8. Complications

8.4. Sperm Collection in Patients with Azoospermia (Testicular Biopsy)
- 8.4.1. Sperm Introduction and Recovery
- 8.4.2. Methods
  - 8.4.2.1. MESA
  - 8.4.2.2. PESA
  - 8.4.2.3. TESE
  - 8.4.2.4. TESE
  - 8.4.2.5. TEFNA
- 8.4.3. Conclusions

8.5. Surgical Treatments for Infertility
- 8.5.1. Laparoscopy in Infertility
  - 8.5.1.1. Objectives
  - 8.5.1.2. Techniques and Instrumentation
  - 8.5.1.3. Indications
- 8.5.2. Hysteroscopy
  - 8.5.2.1. Introduction
  - 8.5.2.2. Diagnostic Techniques
  - 8.5.2.3. Hysteroscopic Distention Devices
  - 8.5.2.4. Operative Technique

8.6. The Laboratory as a Clean Room: Definition

8.7. Laboratory Structure
- 8.7.1. Andrology Laboratory
- 8.7.2. Embryology Laboratory
- 8.7.3. Cryobiology Laboratory
- 8.7.4. PGD Laboratory

8.8. Laboratory Conditions
- 8.8.1. Design
- 8.8.2. Pressure
- 8.8.3. Gas Control (CO2, O2, N2)
- 8.8.4. Temperature Control
- 8.8.5. Air Control (VOC's)
- 8.8.6. Lighting

8.9. Cleaning, Maintenance and Safety
- 8.9.1. Personnel Clothing and Hygiene
- 8.9.2. Laboratory Cleaning
- 8.9.3. Biosecurity
- 8.9.4. Quality Control

8.10. Laboratory Equipment
- 8.10.1. Bells
- 8.10.2. Incubators
- 8.10.3. Microinjectors
- 8.10.4. Refrigerators
- 8.10.5. Nitrogen Tanks
- 8.10.6. Time-Lapse Equipment
- 8.10.7. Control of Equipment, Breakdowns and Repairs

8.11. Laboratory Working Times

Module 9. Psychological Support and Special Situations in Assisted Reproduction

9.1. Psychology of Human Reproduction
- 9.1.1. Reproductive Physiology
- 9.1.2. Human Sexuality: Functional and Dysfunctional
- 9.1.3. Definition of Sterility/Infertility
- 9.1.4. Infertile Couple Support

9.2. Assisted Human Reproduction Psychology
- 9.2.1. Beliefs about Assisted Reproduction
- 9.2.2. Psychological, Emotional, Behavioral, Cognitive and Emotional Aspects of Assisted Reproduction
- 9.2.3. Psychological Aspects of Genetic Studies
- 9.2.4. Psychological and Emotional Repercussions of Reproductive Treatments
- 9.2.5. Awaiting Results
- 9.2.6. Families Resulting from Assisted Reproduction
  - 9.2.6.1. Family Types and Emotional Nursing Support

9.3. Recurrent Gestational Loss
- 9.3.1. Causes
  - 9.3.1.1. Stress
- 9.3.2. Social, Cultural and Religious Beliefs
- 9.3.3. Possible Reactions to Repeat Abortion
- 9.3.4. Psychological, Cognitive-Behavioral Repercussions of Abortion
- 9.3.5. Psychosomatic Repeat Miscarriage
- 9.3.6. Intervention in Repeat Abortions
- 9.3.7. Indication for Psychotherapy: Nursing Support in Psychotherapy

9.4. Psychosocial Approach in Gamete Donation
- 9.4.1. Interviewing Gamete Donor Candidates
  - 9.4.1.1. Qualitative Assessment
  - 9.4.1.2. Quantitative Valuation
  - 9.4.1.3. Behavioral Assessment
  - 9.4.1.4. Psycho-Technical Evaluation
- 9.4.2. Gamete Donation Candidate Evaluation Report
  - 9.4.2.1. Re-evaluation
- 9.4.3. Gamete Recipient Families
  - 9.4.3.1. Myths and Beliefs about Gamete Donation
  - 9.4.3.2. Frequently Asked Questions
  - 9.4.3.3. Disclosure of Origins According to Family Models

9.5. Assisted Reproduction Nursing Consultation: Psychosocial Approach
- 9.5.1. Holistic Counseling and Treatment in Assisted Reproduction Nursing
- 9.5.2. Primary Health Care Role of the Infertile Couple
  - 9.5.2.1. Target Population Recruitment
  - 9.5.2.2. Initial Interview: Reception, Information, Orientation, Referral to Other Professionals

9.5.3. Management of Communication with Assisted Reproductive Technologies Patients
9.5.3.1. Communicative Skills
9.5.3.2. Nurse-Patient Interpersonal Relationship
9.5.3.3. Emotional Patient Care in Assisted Reproduction
9.5.3.3.1. Detection of Emotional Problems in the Interview with the Patient
9.5.3.3.2. Intervention and Prevention Strategies
9.5.3.3.3. Support Groups
9.5.4. Principal Nursing Diagnoses (NANDA), Interventions (NIC) and Outcomes (NOC) in the Emotional Process of Assisted Reproduction
9.6. Special Situations
9.6.1. Reproductive Approach in the Oncology Patient
9.6.1.1. How Does Cancer Treatment Affect Fertility?
9.6.1.2. When is it Necessary to Preserve Fertility?
9.6.1.3. Limits to Fertility Preservation
9.6.2. Fertility Preservation in Oncology Patients
9.6.2.1. Ovarian Stimulation for Fertility Preservation in Oncology Patient
9.6.2.2. Preservation Methods
9.6.2.2.1. Cryopreservation: Oocytes, Embryos and Ovarian Tissue
9.6.2.2.2. Hormone Therapy
9.6.2.2.3. Ovarian Transposition
9.6.3. Fertility Preservation in Oncology Patients
9.6.3.1. Preservation Methods
9.6.3.1.1. Cryopreservation of Semen
9.6.3.1.2. Cryopreservation of Testicular Tissue
9.6.3.1.3. Hormone Therapy
9.6.4. Reproductive Approach and Preservation in Patients with Sex Change
9.7. Nutritional Advice in Assisted Reproduction
9.7.1. Nutrition and Infertility. Lifestyle
9.7.1.1. Obesity
9.7.1.2. Hormonal Problems
9.7.1.2.1. Hypothyroidism/Hyperthyroidism
9.7.1.2.2. Diabetes Mellitus
9.7.1.2.3. SOP
9.7.1.2.4. Endometriosis
9.7.2. Foods Recommended/Discouraged Before and During Assisted Reproduction Treatment
9.7.2.1. Role of Vitamins
9.7.2.2. Role of Minerals
9.7.3. Myths and Truths About Feeding in Assisted Reproduction
9.7.4. Examples of Diet
9.8. Grief in Assisted Reproduction
9.8.1. Concept of Grief
9.8.2. Types of Grief in Assisted Reproduction
9.8.2.1. Infertility Bereavement
9.8.2.2. Mourning the Loss of the Invisible
9.8.2.3. Gestational Bereavement
9.8.2.4. Duel for Unsuccessful Implementations
9.8.2.5. Perinatal Bereavement
9.8.3. Therapeutic Advice for Overcoming Grief
9.8.4. Care Plan in the Bereavement Process
9.9. Assisted Reproduction Failure: New Alternatives
9.9.1. Adoptions
9.9.2. The Childless Family

Module 10. Legal and Ethical Aspects in Assisted Reproduction

10.1. Assisted Reproduction Before the Law
10.1.1. Introduction and Key Concepts to be Defined
10.1.2. Law 14/2006 on Assisted Human Reproduction Techniques in Spain: Key Points to Highlight
10.1.3. Rights and Duties of Users Undergoing Assisted Reproductive Techniques
10.1.3.1. Women's Rights
10.1.3.2. Right of the Partner or Husband
10.1.3.3. Donor Rights and Obligations
10.1.3.4. Female Couple
10.1.3.5. Affiliation of Children Born by Assisted Reproduction Techniques
10.1.3.6. Transsexuality and Fertility Preservation

10.2. Informed Consents, Law 41/2002 Respect for Patient Autonomy
- 10.2.1. What Should a Consent Form Look Like, When and Who Should Give It, What Are Its Limits, and How Long Should We Keep It?
- 10.2.2. Examples of Consents Used in Assisted Reproduction
- 10.2.3. Presentation of Case Studies on the Utility and Use of Informed Consents

10.3. Portfolio of Services Offered by Our National Social Security System in Assisted Reproduction
- 10.3.1. Types of Treatments Offered
- 10.3.2. General Access Criteria and Exclusion Criteria
- 10.3.3. Specific Access Criteria for Each of the Offered Techniques

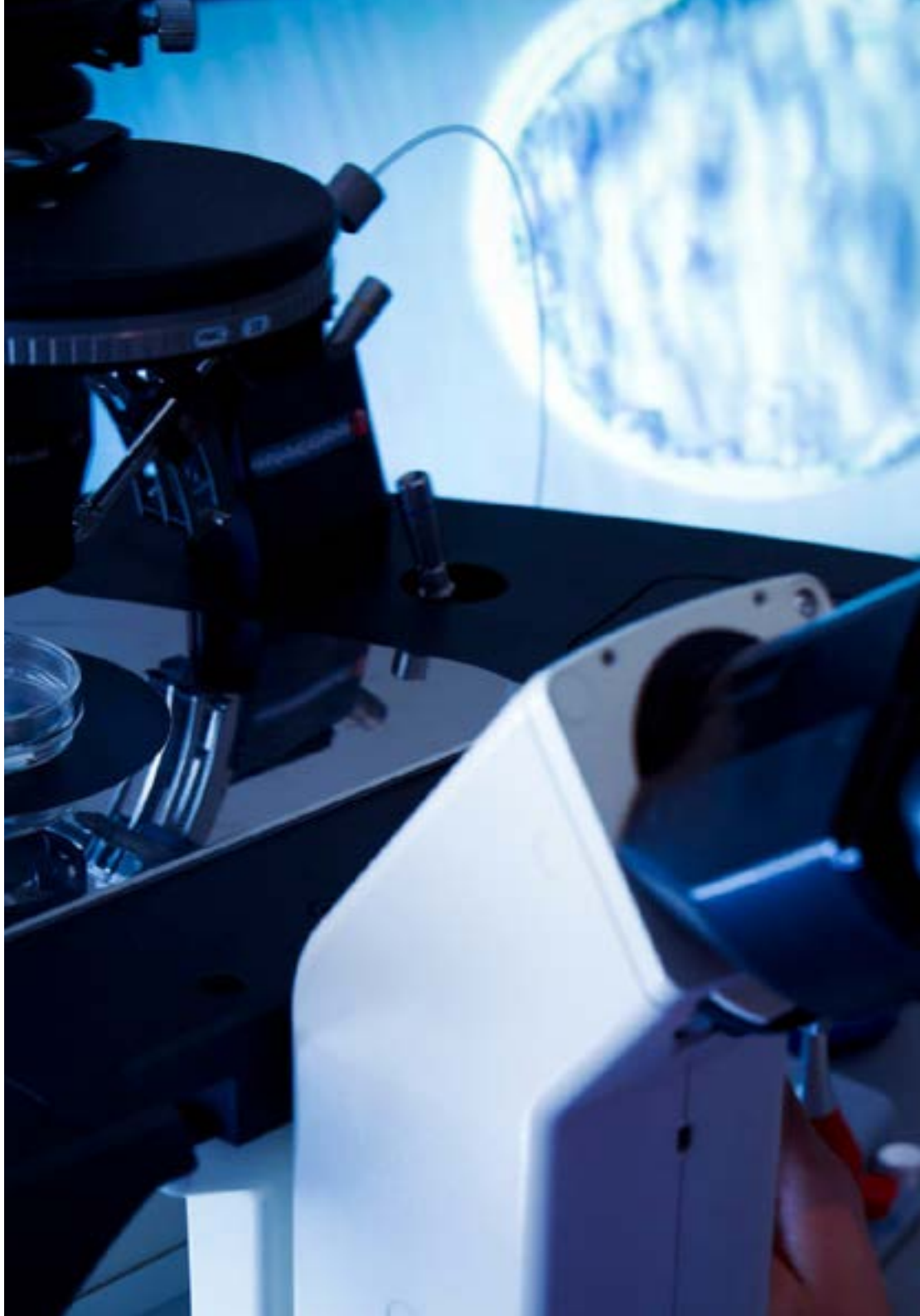
10.4. Ethical and Legal Approach to Surrogacy
- 10.4.1. Definition and Current situation in Spain
- 10.4.2. Ethical Debate For or Against. Breakdown of Points

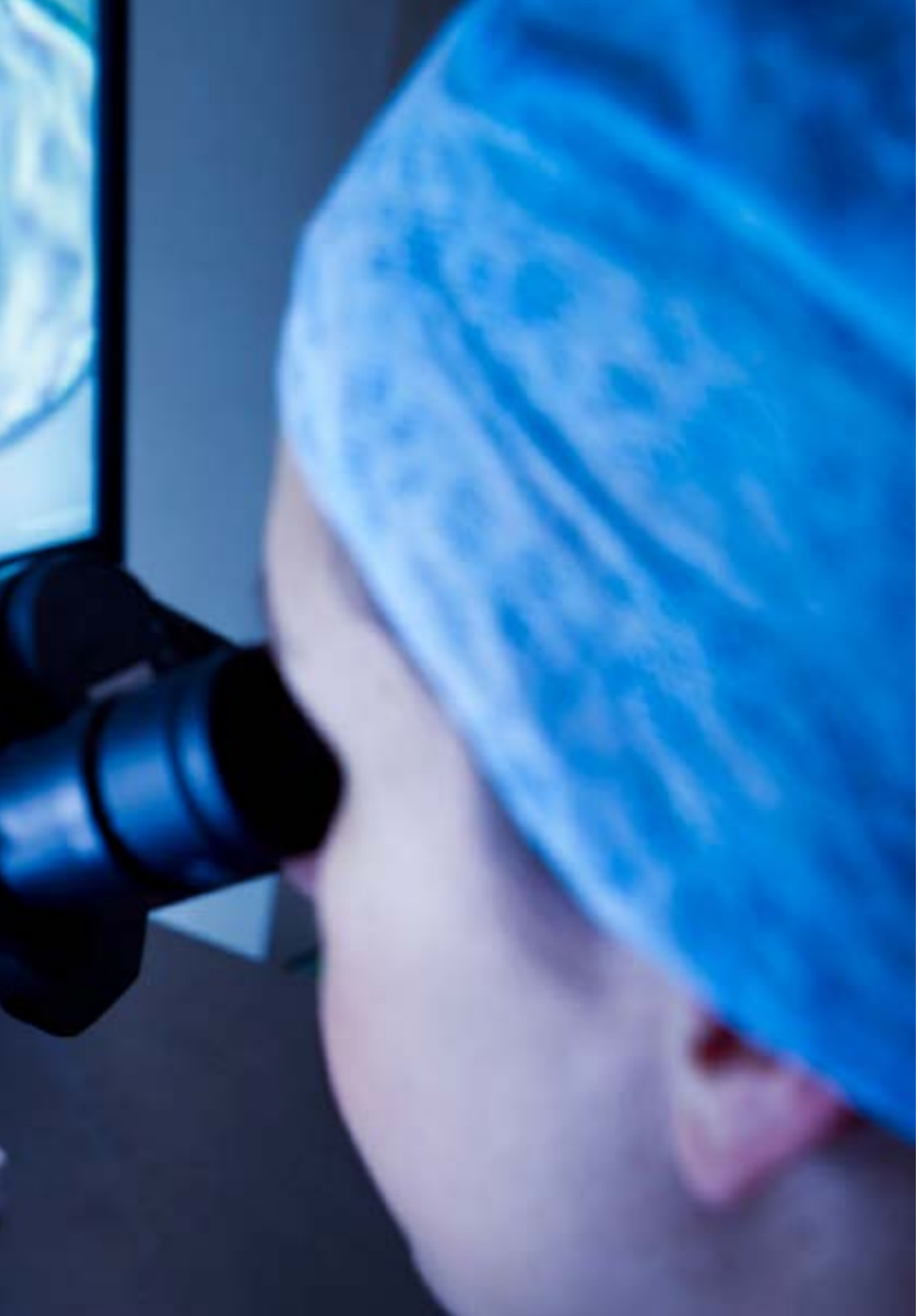
10.5. Ethical Issues and Approaches
- 10.5.1. What are the Ethical Aspects to be Taken into Account in the Daily Practice of Infertility Treatments?
- 10.5.2. Ethical Limits to Treatment
- 10.5.3. Advanced Maternal Age Under Debate
- 10.5.4. Religious and Cultural Tendencies of Users as Influencing Factors in Undergoing Assisted Reproductive Techniques
- 10.5.5. Embryo Donation and Destruction: Ethical and Legal Issues
- 10.5.6. Growth of Assisted Reproduction as a Private Business. Access for All?

10.6. Research in Assisted Reproduction
- 10.6.1. Biomedical Research Law 14/2007, Application and General Principles
- 10.6.2. Donation and Use of Human Gametes and Preembryos
  - 10.6.2.1. Procurement of Cells of Embryonic Origin
  - 10.6.2.2. Donation of Human Embryos and Fetuses
  - 10.6.2.3. Donation Requirements
- 10.6.3. Genetic Analysis and Biological Samples
- 10.6.4. Biobanks

10.7. Legislation on Assisted Reproduction in Other Countries of the European Union Why Do So Many Foreigners Come to Our Country?

10.8. Mandatory European Guidelines





The program also includes a specific section dedicated to the legal and ethical aspects of Assisted Reproduction, so that you always act based on current regulations"

07

Clinical Internship

Although the initial section of this Hybrid Master's Degree is distinguished by its dynamism and its multidisciplinary and avant-garde character, the strong point of this program is, without a doubt, the Internship offered in a clinical center of the highest level. TECH offers its graduates the opportunity to spend 3 weeks with a team of specialists in Assisted Reproduction, to apply the strategies developed theoretically and to update their practice based on the active participation of various cases.

The possibility of attending a center will allow you to have access to the most avant-garde and sophisticated clinical technology and to work with it in the different fertility programs that are being carried out at that moment"

The choice of this program by the graduates will give them the opportunity to carry out a practical period in one of the best Assisted Reproduction centers in the country. This is a 3-week internship divided into 120 hours, which you will be able to carry out from Monday to Friday in full working days with a team of nurses and doctors of the highest level. Additionally, you will have the support of an assistant tutor who will guide you throughout the experience, guiding you through the good practice and ensuring that the criteria are met.

This opportunity will help the graduate to know in detail the clinical strategies that are currently being carried out in relation to infertility studies in men and women, as well as the techniques that have shown the best results for the different cases that may arise in daily practice. Moreover, the specialist will actively participate in the management of the patient, both in diagnostic and therapeutic aspects, with special emphasis on emotional and psychological support, especially in contexts in which bad news has to be conveyed.

You will also be able to make use of the most advanced medical technology, as well as get up to date with the most effective and safe tests that currently exist, both for the preliminary analysis of the reproductive characteristics of patients, as well as in fertilization treatments. All this while reviewing the current regulations and legal aspects to be taken into account when working in this type of cases. This way you will be able to improve your nursing practice in a guaranteed way through an experience that will undoubtedly mark a before and after in your professional career.

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

The procedures described below will be the basis of the practical part of the training, and their realization is subject to both the suitability of the patients and the center's own availability and workload, the proposed activities being the following:

The course in this program will show you a side of Nursing in the Assisted Reproduction Service that will make you fall even more in love with this profession"

Module	Practical Activity
Anatomy and physiology of reproduction in women	Perform the initial study (clinical history, physical examination, basic infertility studies, complementary studies according to altered factor)
	Perform analysis and specialized studies
	Address other special factors in the patient
	Participate in complementary explorations together with the specialist
	Assist the specialist in the performance of genetic studies
Reproductive anatomy and physiology in the male	Perform semen analysis
	Assist the specialist in the analysis and processing of samples for Assisted Reproductive Techniques (ART)
	Handle semen freezing techniques
	Perform semen washing for HIV, Hepatitis B and Hepatitis C seropositive males
	Manage the indications and recommended tests for sperm donation
	Manage complementary techniques of sperm selection and use of antioxidants
Genetics and Immunology of Reproduction. Donor Bank	Perform Preimplantation Genetic Diagnosis (PGT: Preimplantation Genetic Testing)
	Assist the specialist in the management and education in the Assisted Reproduction Practice
	Provide continuous comprehensive care
	Perform blood tests for fertility studies Programming, Interpretation and Extraction
	Manage the required documentation: medical history, informed consents, etc.
	Follow up the patient after BHCG result
	Manage the SIRHA platform: Assisted Human Reproduction Information System
Pharmacology and laboratory in Assisted Reproduction	Handling and administration of folliculogenesis inducing drugs: clomiphene citrate, gonadotropins and other adjuvants
	Administer other hormonal treatments (GnRH, aromatase inhibitors)
	Provide Pharmacological Support of the Luteal Phase in In Vitro Fertilization
	Perform assessment and treatment of ovarian stimulation complications: ovarian hyperstimulation syndrome (OHSS)
	Assist in the anesthetic process in Assisted Reproduction
	Verify the environmental conditions, quality controls and adequate cleaning of an AR laboratory
	Master the advanced techniques of laboratory work

Module	Practical Activity
Assisted Reproduction Techniques	Differentiate between freezing and vitrification, and the possibilities of donation.
	Apply traceability as an indispensable tool to avoid errors in the laboratory
	Use other techniques that can help in the diagnosis of the patient
	Intervene in the different phases of a surgery: preoperative, intraoperative and postoperative and postoperative
Psychological support and special situations in Assisted Reproduction	Detect psychological or emotional alterations derived from infertility diagnoses and/or derived from reproduction treatment.
	Provide emotional support to the patient throughout the process of Assisted Reproduction
	Comprehensive approach to the patient and assertive communication
	Master bereavement support techniques
	Provide nutritional follow-up in Assisted Reproduction Consultation
Legal and ethical and ethical in Assisted Reproduction	Learn, know how to interpret and correctly use each one of the consents used in Assisted Reproduction
	Perform biosurveillance and to notify it according to the Royal Decree
	Explain the rights of users undergoing Assisted Reproduction techniques, including gamete donors
	Apply ethical principles to face multiple situations that may arise in the field of Assisted Reproduction

Civil Liability Insurance

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

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

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

General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

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

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

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

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

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

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

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

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

08

Where Can I Do the Clinical Internship?

TECH pays special attention to the choice of the centers it selects for the internships in this type of program. It considers that it is essential to choose the best clinics, not only in terms of the quality of their service, but also in terms of the degree of satisfaction of their clients and the level of technology they use in their specialized practice. In this way it is possible to offer experiences of the highest level, guaranteeing an active participation of the graduate in the day to day of the same and allowing him to update his knowledge through the support of the best professionals of the current sector.

The internship will take place in one of the best Assisted Reproduction centers in the country, so that you can get up to date with the best specialists and make use of the most avant-garde clinical strategies"

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

Vida Fertility Institute Madrid

Country: Spain
City: Madrid

Address: Calle Palermo, 15, 28043, Madrid

-Fertility Clinic and Therapeutic Strategy

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Update in Assisted Reproduction

Vida Fertility Institute Alicante

Country: Spain
City: Alicante

Address: Calle Velázquez, 2, 03560, Campello, Alicante

Center Specialized in Fertility Solutions and Diagnostic and Therapeutic Treatments

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Update in Assisted Reproduction

Ginefiv Madrid

Country: Spain
City: Madrid

Address: C. José Silva, 18, 28043 Madrid

Medical Center Specialized in Fertility and Pregnancy Promotion

Related internship programs:
- Nursing in the Gynecology Service
- Nursing in the Assisted Reproduction Service Service

Ginefiv Getafe

Country: Spain
City: Madrid

Address: Dirección: C. Madrid, 83, 28902 Getafe, Madrid

Medical Center Specialized in Fertility and Pregnancy Promotion

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Nursing in the Gynecology Service

Ginefiv San Sebastián de los Reyes

Country: Spain
City: Madrid

Address: Av. de España, 8, 28703 San Sebastián de los Reyes, Madrid

Medical Center Specialized in Fertility and Pregnancy Promotion

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Nursing in the Gynecology Service

Clínica Tambre

Country: Spain
City: Madrid

Address: Calle Tambre 8, 28002, Madrid

Clinical Center for Reproductive Gynecology and Obstetrics

Related internship programs:
- Nursing in the Assisted Reproduction Service Service

Hospital HM Modelo

Country: Spain
City: La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

Hospital Maternidad HM Belén

Country: Spain
City: La Coruña

Address: R. Filantropía, 3, 15011, A Coruña

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Update in Assisted Reproduction
- Hospitals and Health Services Management

Hospital HM Montepríncipe

Country: Spain
City: Madrid

Address: Av. de Montepríncipe, 25, 28660, Boadilla del Monte, Madrid

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Palliative Care
- Aesthetic Medicine

Hospital HM Sanchinarro

Country: Spain
City: Madrid

Address: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

Hospital HM Puerta del Sur

Country: Spain
City: Madrid

Address: Av. Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Palliative Care
- Clinical Ophthalmology

Hospital HM Vallés

Country: Spain
City: Madrid

Address: Calle Santiago, 14, 28801, Alcalá de Henares, Madrid

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Gynecologic Oncology
- Clinical Ophthalmology

HM Fertility Center

Country: Spain
City: Madrid

Address: Calle Velázquez 25, 1ª planta , 28001, Madrid

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Update in Assisted Reproduction

Policlínico HM Gabinete Velázquez

Country: Spain
City: Madrid

Address: C. de Jorge Juan, 19, 1° 28001, 28001, Madrid

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Clinical Nutrition in Medicine
- Aesthetic Plastic Surgery

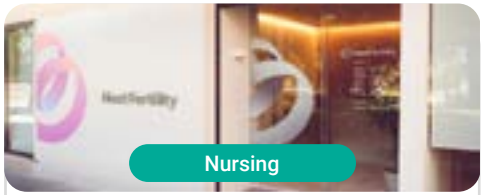
Policlínico HM Sanchinarro

Country: Spain
City: Madrid

Address: Av. de Manoteras, 10, 28050, Madrid

Network of private clinics, hospitals and private specialized centers distributed throughout Spain

Related internship programs:
- Gynecological Care for Midwives
-Nursing in the Digestive System Service



Next Fertility Valencia

Country: Spain
City: Valence

Address: Avenida Burjassot, 1, 46009, Valencia

Assisted Reproduction Clinic

Related internship programs:
- Nursing in the Assisted Reproduction Service Service

Ginefiv Barcelona

Country
Spain

City
Barcelona

Address: Gran Vía de les Corts Catalanes, 456, 08015 Barcelona

Fertility Clinic with More than 35 years of Experience in Techniques Such as Artificial Insemination and In Vitro Fertilization

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Nursing in the Gynecology Service

Next Fertility Sevilla

Country
Spain

City
Seville

Address: Av. del Reino Unido, 1, 41012 Sevilla

Assisted Reproduction Clinic

Related internship programs:
-Nursing in the Assisted Reproduction Service
-Assisted Reproduction Update

Amnios in Vitro Project

Country
Spain

City
Madrid

Address: Calle Boix y Morer, 5, 28003, Madrid

Amnios in Vitro Project, clinic Specializing in Assisted Reproduction

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Update in Assisted Reproduction

Next Fertility Murcia

Country
Spain

City
Murcia

Address: Av. Europa, 11, 30007 Murcia

Next Fertility is an Assisted Reproduction Clinic

Related internship programs:
- Nursing in the Assisted Reproduction Service Service
- Update in Assisted Reproduction

09

Methodology

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

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

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

At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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:

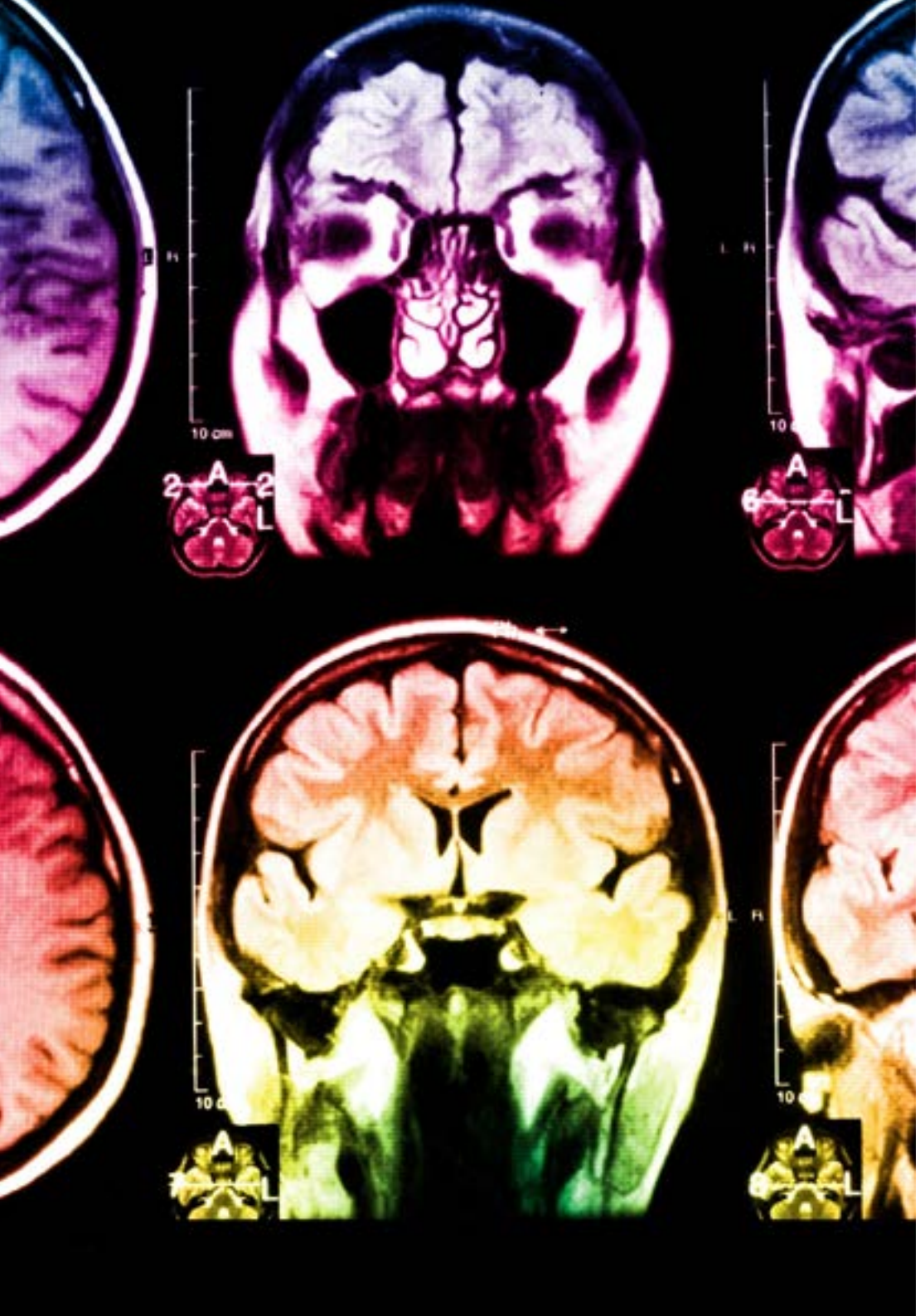
1. Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The nurse will learn through real cases and by solving 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 we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. 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 really 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.

Nursing Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, 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 them as many times as you want.

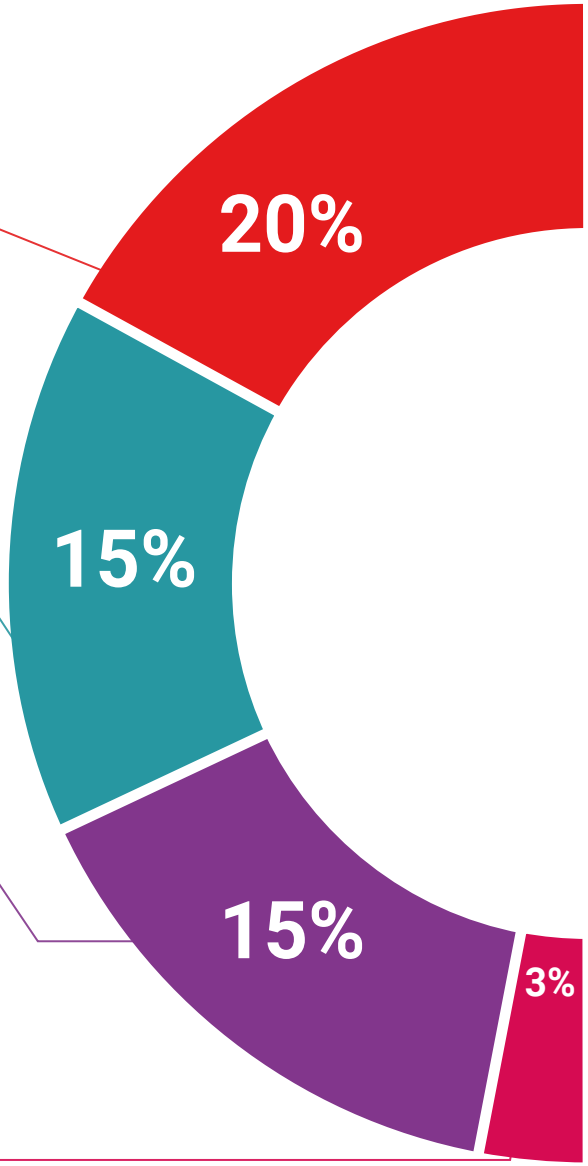
Interactive Summaries

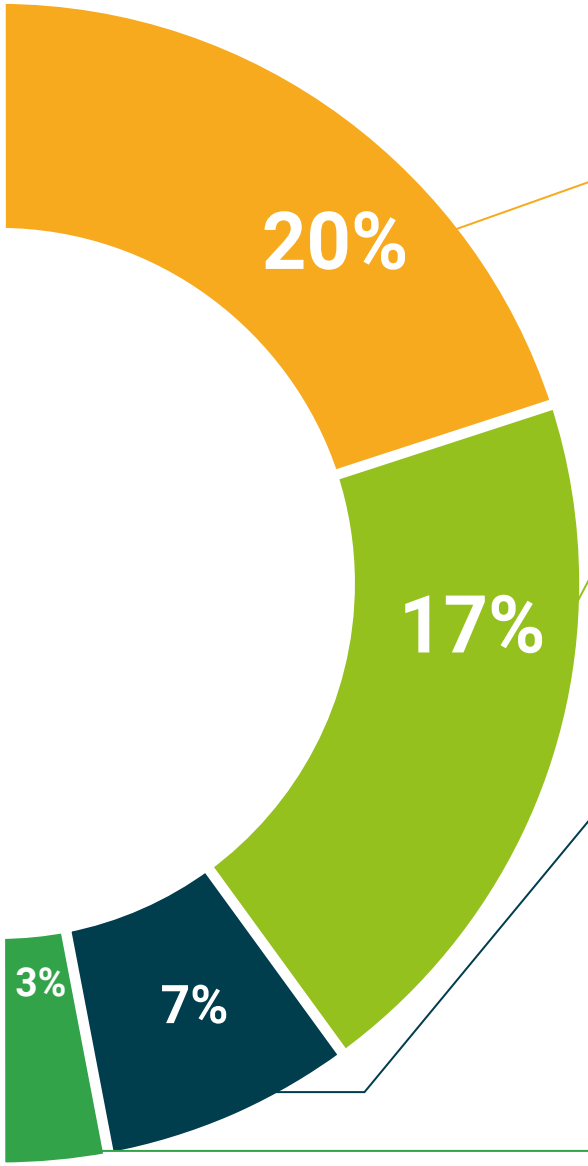
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Quick Action Guides

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

10

Certificate

The Hybrid Master's Degree in Nursing in the Assisted Reproduction Service guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional 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 **Hybrid Master's Degree diploma in Nursing in the Assisted Reproduction Service** 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: **Hybrid Master's Degree in Nursing in the Assisted Reproduction Service**

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

Duration: **12 months**

Certificate: **TECH Global University**

Recognition: **60 + 5 ECTS Credits**

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

Hybrid Master's Degree in Nursing in the Assisted Reproduction Service

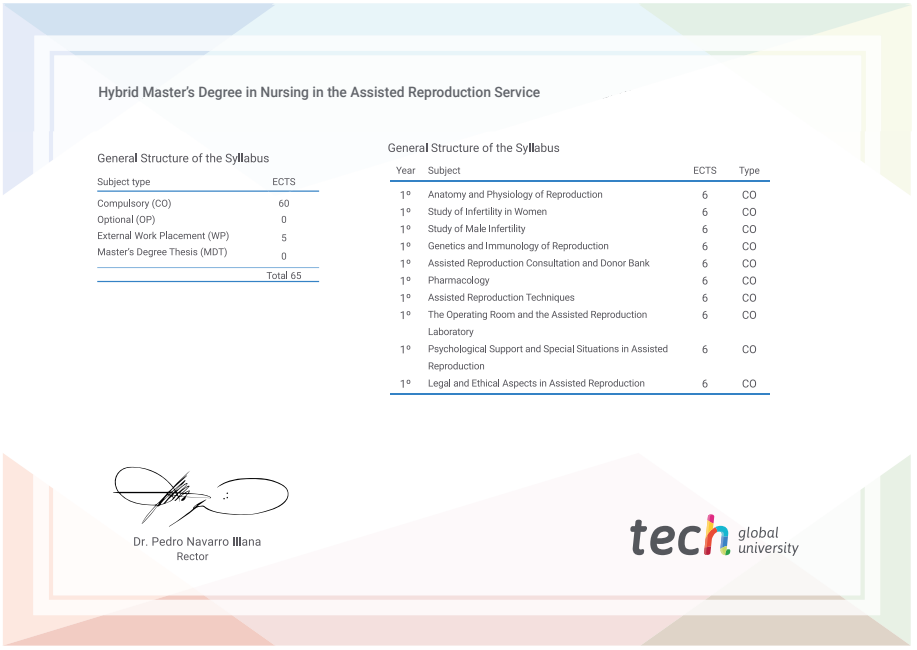
This is a program of 1,620 hours of duration equivalent to 65 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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



Hybrid Master's Degree in Nursing in the Assisted Reproduction Service

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	5
Master's Degree Thesis (MDT)	0
	Total 65

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Anatomy and Physiology of Reproduction	6	CO
1º	Study of Infertility in Women	6	CO
1º	Study of Male Infertility	6	CO
1º	Genetics and Immunology of Reproduction	6	CO
1º	Assisted Reproduction Consultation and Donor Bank	6	CO
1º	Pharmacology	6	CO
1º	Assisted Reproduction Techniques	6	CO
1º	The Operating Room and the Assisted Reproduction Laboratory	6	CO
1º	Psychological Support and Special Situations in Assisted Reproduction	6	CO
1º	Legal and Ethical Aspects in Assisted Reproduction	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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Hybrid Master's Degree

Nursing in the Assisted Reproduction Service

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Certificate: **TECH Global University**

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Hybrid Master's Degree

Nursing in the Assisted Reproduction Service

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