



**UNIVERSITAS**  
*Miguel Hernández*

## **Contact information**

Universidad Miguel Hernández  
de Elche

Avda. de la Universidad, s/n  
03005 Elche (Alicante), Spain

[internacional@umh.es](mailto:internacional@umh.es)

[www.internacional.umh.es](http://www.internacional.umh.es)

# **STUDY ABROAD**

**Clinical Simulation - Block 1**

## **CLINICAL INTERVIEW AND PHYSICAL EXAMINATION SKILLS**



**UMH Area of Clinical Simulation**



# 1. Introduction to Clinical Simulation and Clinical Interviews in Spanish (3 hours)

**Professor José Manuel Ramos. Department of Clinical Medicine**

## 1.1 What is Clinical Simulation?

Clinical simulation is an educational tool that enables students to practice medical skills within a safe and controlled environment. These environments use mannequins, patient simulators, and virtual scenarios to reproduce real clinical situations without posing any risk to patients.

## Importance of Clinical Simulation

- Enables learning within a risk-free environment.
- Facilitates the acquisition and consolidation of basic clinical skills.
- Improves decision-making and teamwork.
- Fosters critical thinking and problem solving.
- Provides structured feedback to improve performance.

## Formation of Teams

During the simulation, students work on teams. Teams facilitate collaboration, effective communication, and leadership under clinical situations. Each student assumes a specific role, such as team leader, individual responsible for the airway/trachea, medication administration, monitoring, etc.

## Structure of a Clinical Simulation Session

- Enables learning within a risk-free environment.
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## Objectives

- Introduce students to clinical simulation methodology.
- Advance basic clinical evaluation skills and decision making.
- Improve communication and teamwork within medical environments.
- Learn to manage stressful situations within a controlled environment.
- Reinforce critical thinking and problem solving in clinical cases.

## Formation of Teams

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## 1.2 Clinical Interview Training in Spanish

This simulation training helps students to build confidence and improve essential skills for interacting with patients in their future clinical practice.

## Objectives

- Understand the basic structure of an effective clinical interview.
- Improve communication skills to establish an appropriate doctor-patient relationship.
- Learn to obtain relevant information on the motive for the consultation, clinical history, and symptoms.
- Practice active learn and exhibit empathy during the interaction with the patient.
- Identify open and closed questions in accordance with the context of the consultation.
- Improve skills for compiling clinical information in a structured and orderly manner.

## Activities performed by students

- Conduct simulated clinical interviews in groups, with students playing the roles of both doctor and patient.
- Practice different common clinical scenarios during the medical consultation.
- Simulations of interviews with different types of patients (collaborators, anxious, reserved, etc.).
- Feedback between peers and instructors to improve communication and interview techniques.
- Analysis of recorded interviews to identify strengths and areas for improvement

## Structure of the Exercise

- **Beginning the interview:** Practice the presentation and establishment of a relationship with the patient exhibiting a professional and empathetic attitude.
- **Motive for the consultation:** Learn to formulate open questions to enable the patient to explain his or her main issue.
- **History of the actual ailment:** Advance skills to explore main symptoms by formulating directed questions on the beginning, duration, intensity, and aggravating & alleviating factors, among other questions.
- **Personal and family history:** Practice compiling information on previous ailments, hospitalizations, surgeries, allergies, and relevant family diseases.
- **Lifestyle habits:** Inquire about the patient's lifestyle, including diet, exercise, consumption of alcohol and tobacco, and other substances.
- **Exploration of emotional state:** Identify signs of anxiety, depression, and/or stress in the patient through observation of his or her verbal and non-verbal language.
- **End of interview:** Learn to summarize the information gained, verifying that the patient understands the diagnostic and/or therapeutic plan, and offer the opportunity to ask additional questions.

## 2- Taking vital signs, Cardiac and pulmonary auscultation (3 Hours)

**Professor José Manuel Ramos. Department of Clinical Medicine**

### 2.1 Taking vital signs

This simulation training enables students to acquire essential skills during the initial assessment of patients, fostering safety and confidence for clinical practice.

#### Objectives

- Understand the importance of vital signs in assessing the patient's clinical condition.
- Learn the correct techniques for measuring blood pressure, heart rate, body temperature, and oxygen saturation.
- Identify normal values and recognize warning signs for each parameter.
- Enhance skills for the proper use of medical equipment, such as sphygmomanometers, thermometers, pulse oximeters, and stethoscopes.
- Practice effective communication with patients when taking vital signs.
- Integrate vital sign measurement into the initial clinical approach to the patient.

#### Activities performed by students

- Measurement of blood pressure using the auscultatory and palpatory methods.

- Measurement of oxygen saturation using a pulse oximeter.
- Identification of changes in vital signs and their possible clinical significance.
- Simulation of communication with the patient to explain the procedure to follow and the importance of the measurements.
- Recording of body temperature using different types of thermometers (oral, axillary, tympanic).
- Assessment of heart rate by palpating the radial, carotid, and brachial pulse.

### 2.2 Basics of cardiac auscultation

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## Activities performed by students

- Proper placement of the stethoscope at each auscultation site.
- Differentiation between the first and second heart sounds (S1 and S2).
- Identification of physiological variations, such as splitting of the second heart sound.
- Recognition of basic abnormal sounds, such as systolic and diastolic murmurs.
- Practice variations of heart rate and rhythm under different simulated clinical scenarios.

## 2.2 Basics of pulmonary auscultation

This simulation training enables students to acquire essential skills during the initial assessment of patients, fostering safety and confidence for clinical practice.

### Objectives

- Become familiar with the use of the stethoscope and its correct placement during pulmonary auscultation.
- Identify key auscultation points in the anterior, posterior, and lateral regions of the chest.



**Cardiac Auscultation Workshop**

- Recognize normal breathing sounds, such as vesicular murmur.
- Differentiate between normal and abnormal breathing sounds, such as rales, wheezes, and rhonchi.
- Advance basic clinical skills within a controlled environment prior to contact with real patients.

## Activities performed by students

- Correct placement of the stethoscope at different auscultation points.
- Identification of vesicular murmur and its normal characteristics.
- Recognition of basic alterations, such as decreased vesicular murmur and the appearance of adventitious sounds.
- Differentiation between rales, wheezing, rhonchi, and pleural friction under simulated scenarios.
- Practice different simulated clinical cases to correlate findings with possible respiratory pathologies.



**Pulmonary Auscultation Workshop**

## 3- Abdominal, Rectal, and Neurological Examination (3 hours)

**Professor José Manuel Ramos. Department of Clinical Medicine**

The use of an abdominal, rectal, and neurological examination trainer enables first-year students to advance basic clinical assessment skills in a safe and structured manner.

### 3.1 Abdominal Exploration

#### Objectives

- Become familiar with abdominal examination techniques (inspection, auscultation, percussion, and palpation).
- Learn to identify key anatomical references within the abdomen.
- Recognize normal and abnormal bowel sounds via auscultation.
- Distinguish between a soft abdomen and a rigid/board-like abdomen (rigidity, guarding, distension).
- Practice identifying palpable organs such as the liver and kidneys.
- Understand basic clinical signs of pathologies, such as ascites, abdominal distension, and abdominal mass.
- Devise a systematic examination sequence with correct hand placement.

### Exercises for students to complete

**Abdominal inspection:** Observe the symmetry, scars, masses, and/or visible signs of pathologies.

**Auscultation:** Listen to intestinal sounds and differentiate between those that are normal, hyperactive, hypoactive, or absent.

**Percussion:** Assess the distribution of air and the presence of dullness in areas suspected of ascites and visceromegaly.

**Superficial and deep palpation:** Differentiate between a normal abdomen from one with muscular resistance or palpable masses.

Basic maneuvers

- **Murphy's maneuver:** assessment of cholecystitis.
- **McBurney's maneuver:** suspected appendicitis.
- **Rebound tenderness:** indication of peritoneal inflammation.
- **Fist percussion on the flank:** assessment of kidney pain.

Using the simulator allows for repeating procedures and reinforcing learning without causing discomfort to real patients.

### 3.2 Basic digital rectal examination

#### Objectives

- Understand the basic anatomy of the rectal and perianal region.
- Learn the proper techniques for performing a digital rectal exam systematically and safely.
- Become familiar with the clinical indications for a digital rectal examination and its importance in the diagnosis of various pathologies.

- Further skills in the identification of normal and pathological structures during a digital rectal examination.
- Understand the importance of communication with the patient and obtaining their consent before performing the procedure.

### Activities performed by students

- Inspection of the perianal region to identify possible anomalies, such as hemorrhoids, fistulas, and/or fissures.
- Proper positioning of the patient in different positions for the examination, such as Sims' position.
- Technique for gently inserting a gloved and lubricated finger into the rectal canal, respecting the patient's anatomy.
- Identification of internal structures, such as the anal sphincter, rectal mucosa, and in male patients, the prostate gland.
- Evaluation of the anal sphincter tone and detection of possible masses, pain, and/or irregularities in the rectal wall.
- Interpretation of relevant clinical findings and their possible correlation with common pathologies, including prostatitis, benign prostatic hypertrophy, and rectal tumors.



**Digital rectal and breast examination**

## 3.3 Basic Neurological Examination

### Objectives

- Understand the basic principles of neurological examinations.
- Learn the proper sequence for evaluating the nervous system in patients.
- Identify normal and pathological signs in neurological examination.
- Become familiar with the use of basic tools, including the reflex hammer, flashlight, and tuning fork.
- Enhance initial observation and clinical correlation skills.

### Activities performed by students

- Assessment of the patient's level of consciousness and orientation.
- Examination of the cranial nerves, including pupillary reflexes, eye movement, and facial response.
- Assessment of muscular strength through simple maneuvers on the upper and lower extremities.
- Assessment of superficial and deep sensitivity in different areas of the body.
- Testing of osteotendinous reflexes with a reflex hammer at key points such as the patellar and Achilles tendons.
- Coordination and balance with examinations such as the Romberg and finger-nose and heel-knee tests.
- Assessment of gait and detection of alterations in movement patterns.

## 4- Breast examination, EKG and lumbar puncture (3 hours)

**Professor José Manuel Ramos. Department of Clinical Medicine**

This simulation training enables students to acquire basic breast examination skills, fostering early detection of pathologies and promoting empathetic and professional clinical practice. Students also advance essential technical and interpretation skills in EKG and lumbar puncture for their future medical practice.

### Objectives

- Understand basic breast anatomy and its relationship with neighboring structures.
- Learn the correct technique for clinical breast examinations.
- Become familiar with normal and abnormal characteristics of breast tissue.
- Further skills to identify nodules, changes in skin, and other breast alterations.
- Understand the importance of breast self-examination and patient education.
- Practice effective and respectful communication with patients when performing the examination.

### Activities performed by students

- Breast examination in different positions to detect asymmetries, retractions, and/or changes in skin.
- Breast palpation in the four quadrants and retroareolar region by employing systematic techniques, including circular, radial, and quadrant palpation.

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### 4.2 Electrocardiography (EKG)

#### Basic concepts

- Knowledge of EKG principles and their importance in cardiac assessments.
- Become familiar with EKG equipment and its operation.
- Identification of standard leads and their correct placement on the body.

#### Objectives

- Acquire the knowhow to perform an EKG correctly and effectively.
- Interpret basic EKG results, including the identification of normal and abnormal heart rhythms.
- Acquire the ability to recognize common electrocardiography patterns and their clinical implications.

#### Exercises

- Place the electrodes in the correct positions on the mannequin or simulated patient.
- Perform a complete EKG and obtain clear and precise tracings.
- Interpret EKG tracings, identifying P waves, QRS complexes, T waves, and ST segments.
- Analysis of simulated clinical cases to apply theoretical knowledge to practical situations.

