

## MODULE DESCRIPTION (ANALYTICAL PROGRAM).

### 1. Module Information Code:

• Name of the Institution and School	Universidad Autónoma de Nuevo León, School of Medicine
• Name of the Learning Unit	Surgical Sciences I.
• Total classroom hours for theory and/or practice.	400 hours.
• Total extra classroom hours	240 hours.
• Course Modality	Schooled
• Type of academic period in which the module is offered	8th Semester
• Type of Learning Unit in the Curriculum	Compulsory.
• Curriculum area:	ACFP-I Integrative Professional
• UANL credit points	21
• Date of module creation:	June, 2016
• Date of last amendment:	July 30th, 2019
• Person(s) responsible for the module design and amendments:	Dr. med. Gerardo Enrique Muñoz Maldonado. Dr. José Ángel Rodríguez Briseño.

### 2. Introduction:

The learning unit *Surgical Sciences I* is structured in 10 phases making an analysis and evaluation of pathologies and clinical conditions to recognize and perform competently essential medical procedures.

### 3. Purpose(s)

The learning unit *Surgical Sciences I* covers an essential area in the education and development of a health care professional. For the Curriculum Plan of the Bachelor Degree as Medical Surgeon and Obstetrician at the UANL, this module is part of an educational process in which basic and clinical knowledge are integrated and applied together, using the cognitive processes for the development of thinking skills and psychomotor abilities; through this, we promote the development of an attitude for the affective area, training and enabling the student in medical-surgical procedures for areas such as General Surgery and Traumatology.

Its curricular relationship assumes having knowledge on the structure and functions of the human body through the study of areas such as Anatomy, Physiology, Histology, Embryology, Microbiology, Biochemistry and Molecular Biology, Clinical Pathology and Medical Imaging, in order to use such information and knowledge for evaluating and solving comprehensively surgical-clinical problems through an adequate elaboration of medical records and verification and physical examinations combined with the interpretation of laboratory and imaging studies. It also requires



having knowledge on Pharmacology and Toxicology in order to choose correctly a treatment for each case, taking into account the interactions. It is also related to all the Learning Units from the clinical Area, such as Bioethics.

Regarding to the general competences from our University, this Learning Unit contributes in: the usage of formal language, the correct use of language; the use of critical and logical thinking which allows the student to make his decisions according to his influence area or field; management of technological and computer tools; it privileges autonomous learning, which allows the student to consolidate his medical development. Regarding to the specific competences of the professional program, it contributes to acquire scientific knowledge and its application through the clinical field, solving primary health care problems and referring patients opportunely to other specialized health professionals. Likewise, the module promotes effective communication with patients, their families and other professionals, besides being able to work with multidisciplinary teams, always practicing medical ethics, respect, confidentiality and social commitment.

#### **4. Competences of the graduate profile**

##### **a. General competences contributing to this learning unit.**

###### **Instrumental skills:**

1. Apply autonomous learning strategies in the different levels and fields of knowledge that allow them make appropriate and relevant decisions in the personal, academic and professional fields.
2. Use the logical, formal, mathematical, iconic, verbal and non-verbal languages according to their stage of life, in order to understand, interpret and express ideas, feelings, theories and streams of thinking with an ecumenical focus.
3. Use the information and communication technologies as access tools to information and its transformation in knowledge, as well as for learning and collaborative work with cutting-edge techniques that allow its constructive participation in society.
4. Dominate their native language in oral and written form with correctness, relevancy, opportunity and ethics adapting its message to the situation or context, in order to transmit of ideas and scientific findings.
5. Employ logical, critical, creative and proactive thinking to analyze natural and social phenomena that let them make relevant decisions in its area of influence with social responsibility.



6. Use a second language, English in particular, with clarity and correctness to communicate in common, academic, professional and scientific contexts.

#### *Scientific Basis of Medicine*

7. Develop inter, multi and transdisciplinary academic and professional proposals according to the best global practices to promote and consolidate the collaborative work.

8. Use methods and techniques of traditional and cutting-edge research for the development of their academic work, the practice of their profession and the generation of knowledge.

#### *Professional Clinical Practice*

##### **Personal and social interaction skills**

9. Maintain an attitude of commitment and respect towards the diversity of social and cultural practices that reaffirm the principle of integration in the local, national and international context with the purpose of promoting environments of peaceful coexistence.

10. Intervene in front of the challenges of contemporary society at the local and global level with a critical attitude and human, academic and professional commitment to help consolidate the general wellness and sustainable development.

11. Practice the values promoted by the UANL: truth, equality, honesty, liberty, solidarity, respect for life and anyone's, peace, respect for nature, integrity, ethics behavior and justice, within their personal and professional environment in order to make a sustainable society.

##### **Integrative skills:**

12. Make innovative proposals based on the holistic understanding of reality to help overcome the challenges of the interdependent global environment.

13. Take the lead according to social and professional needs to promote relevant social change.

14. Resolve personal and social conflicts in accordance with specific techniques in the academic field and their profession for the proper decision making.

15. Achieve the adaptability required in uncertain professional and social environments of our time to improve living conditions.



**b. Specific competences of the graduate profile that contributes to the learning unit**

**Scientific Base of Medicine**

1.- To use the scientific foundations of medicine by considering the economical, psychological, social, cultural and environmental factors which contribute to the development and evolution of diseases in order to make decisions and take medical actions.

**Professional Clinical Practice**

2.- To solve clinical problems through deductive reasoning, interpretation of findings and the definition of their nature in order to make decisions and determine principles of actions of the medical practice to be followed in a responsible way, impacting individual and collective health.

3. To evaluate the development and evolution of diseases through the analysis of biomedical information and related physical, social and cultural factors; promoting health education and boosting preventive medicine.

4.- To manage patients affected with the most frequent diseases properly, from a biopsychosocial perspective, through the application of knowledge, technical procedures and basic diagnosis, based on clinical guides and patient care protocols in order to solve main health problems in primary care, in the individual and the community.

5. To manage common medical emergencies by applying primary treatment, procedures and interventions, and to refer patients who require critical care in an appropriate and timely way for the preservation of life.

6.- To manage human resources, diagnostic interventions, therapeutic modalities, and health care options according to national standards; promoting a quality culture of patient care and guaranteeing patients' safety.

**Critical thinking and research**

7.- To apply the scientific method in the resolution of medical problems with an innovative, analytical and self-critical attitude toward the prevention, diagnosis and treatment of diseases.



### **Professional Values and Ethics**

8.- To integrate professional values and ethics in medical practice, without distinction as to gender, race, political or sexual preference, religious beliefs, activities performed, disabilities or socioeconomic status; promoting social inclusion and contributing to the population's well-being, its quality of life and human development.

9.- To respect patient's integrity by keeping his medical information as an essential part of the professional secrecy in order to guard his rights.

### **Organizational work**

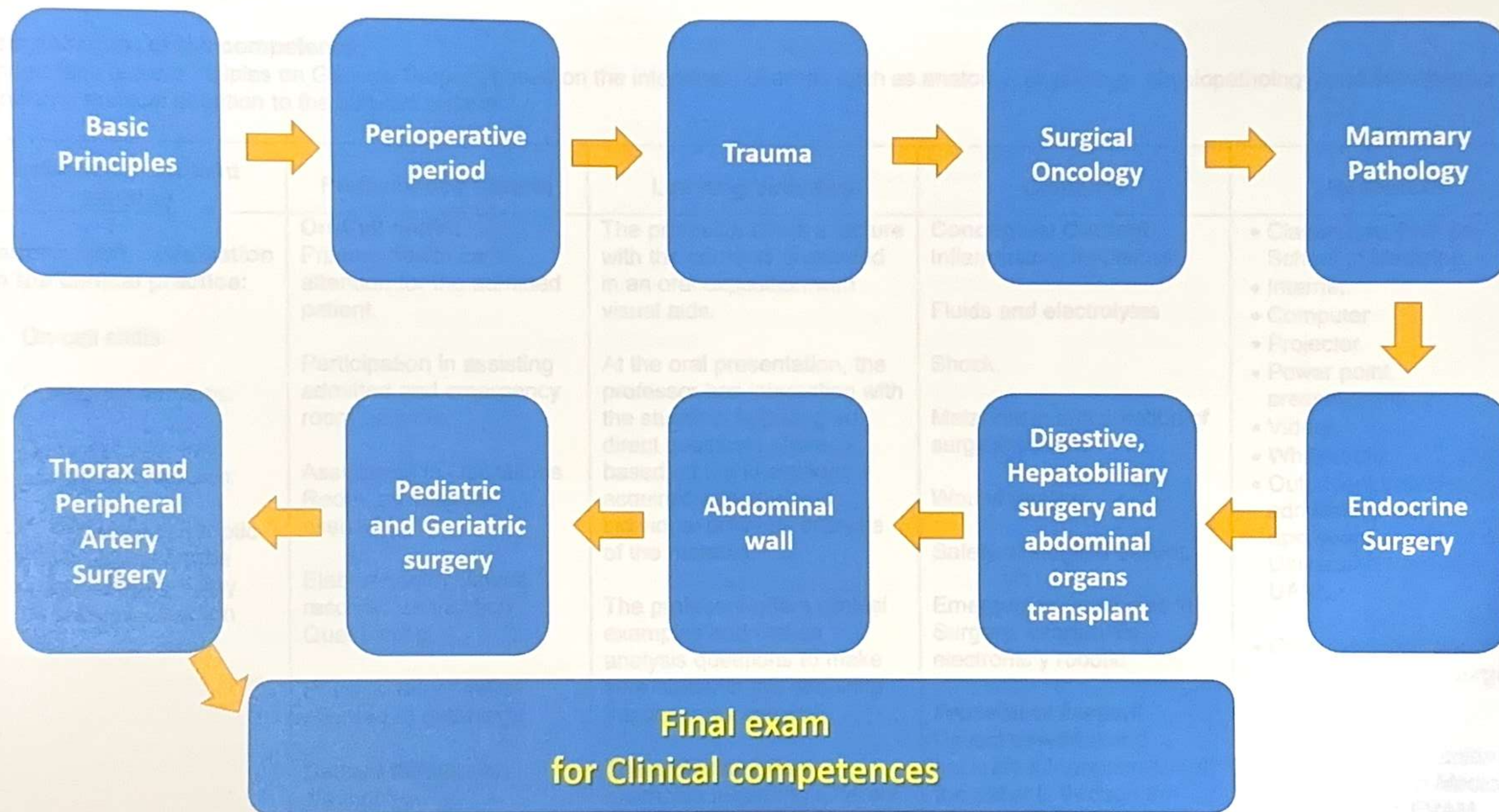
10.- To promote an organizational work culture in the health field, acknowledging the multidisciplinary work, the respect for institutional policies and the observance of rules in order to contribute to a comprehensive treatment of patients.

### **Communication**

11.- To apply the principles of effective communication by establishing a respectful and empathetic relationship with the patient, relatives, the community and other health professionals in order to use the information properly.



## 5. Course roadmap:





6. Structuring into stages or phases				
<p><b>Phase 1. Basic Principles.</b></p> <p><b>Component(s) of the competence:</b> Understand basic principles on General Surgery based on the integration of areas such as anatomy, physiology, physiopathology, and therapeutics for providing medical attention to the surgical patient.</p>				
Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<p><b>Performance evaluation on the clinical practice:</b></p> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> <li>Demonstration on specific procedures:               <ul style="list-style-type: none"> <li>Pre surgery aseptic</li> <li>Nasogastric tube and urinary Foley catheter insertion</li> </ul> </li> </ul>	<p><b>On-Call shifts:</b> Primary health care attention for the admitted patient.</p> <p>Participation in assisting admitted and emergency room patients.</p> <p>Assistance in Operations Room, as surgical assistant.</p> <p>Elaboration of clinical records: Verification Questioning.</p> <p>Physical examination oriented to pathology.</p> <p>Deduce differential diagnostics.</p> <p>Search for concrete evidence through laboratory and cabinet studies.</p>	<p>The professor offers a lecture with the contents presented in an oral exposition with visual aids.</p> <p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.</p>	<p><b>Conceptual Content</b> Inflammatory mediators Fluids and electrolytes Shock. Metabolism and nutrition of surgical patient. Wound healing. Safety of surgical patient Emergent technologies in Surgery: informatics, electronic y robotic.</p> <p><b>Procedural content.</b> Collect essential and accurate information about the patients through the elaboration of clinical records.</p>	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos,</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination .</li> <li>• Integration for diagnostic from clinical, laboratory and cabinet studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul> <p><b>Presurgical Aseptic method (washing, drying and clothing):</b></p> <ol style="list-style-type: none"> <li>1. The student places his cap and mouth covering and removes any object from his hands (e.g. rings, watch, etc.).</li> </ol> <p><u>Washing</u></p> <ol style="list-style-type: none"> <li>2. Takes the washing sponge.</li> <li>3. He washes himself with water from distal to proximal.</li> <li>4. Applies antiseptic on himself.</li> </ol>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student demonstrate the pre surgery aseptic techniques</p> <p>Student practices and demonstrates the nasogastric tube and Foley catheter insertion technique.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the</p>	<p>Pre surgery sepsis.</p> <p>Nasogastric tube and urinary Foley catheter insertion</p> <p>Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.</p> <p>Observes the follow-up on subsequent or post-surgery patients.</p> <p>Explains orally the patient's clinical record and evolution.</p> <p>Explains and advices patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a</p>	<ul style="list-style-type: none"> <li>• Research articles.</li> </ul>
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	<p>5. Simulates the washing sequence in order (To get the complete number of points, the student must show the complete sequence).</p> <p>6. Mentions the washing for 5 minutes.</p> <p>7. Places hands always above elbows.</p> <p>8. Doesn't get contaminated with any other object.</p> <p><u>Arrival to the operations room and drying.</u></p> <p>9. Enters into the operations room adequately.</p> <p>10. Dries with the correct movement</p> <p><u>Clothing</u></p> <p>11. The student puts on the coat correctly.</p> <p>12. The student puts on the gloves properly.</p> <p><b>Nasogastric tube insertion:</b></p> <p>1.- The student introduces himself to the patient and explains the steps of the</p>	<p>assistance needed by the patient.</p> <p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at</p>	<p>procedure or surgical intervention.</p> <p>Universal precautions: (Cleanliness, verify sterile technique, no contamination, washing hands to avoid nosocomial infections)</p> <p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p> <p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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	<p>procedure and the importance of doing it.</p> <p>2.- Ask the patient to have a sit or place the patient in semifowler position with the neck slightly flecioned.</p> <p>3.- Ask for the material.</p> <p>4.- The student puts on the gloves.</p> <p>5 - Measure the distance from the tip of the nose to the earlobe, to the xiphoid appendix.</p> <p>6.- Apply the gel to the nasogastric tube before the insertion..</p> <p>7.- The student should mention aloud that when the tube reaches the back of the throat, the patient should be asked to swallow.</p> <p>8.- Verify the tube is in a correct position by listening to the sound produced by the air with the stethoscope at the epigastrium bye blowing air with a syringe.</p> <p>9.- Student sets the tube</p>	<p>elective or emergency surgeries.</p> <p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p>		
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<p>Component of the course Assess the patient's condition Offer an appropriate treatment</p>	<p><b>Urinary catheter insertion:</b></p> <ol style="list-style-type: none"> <li>1.- The student introduces himself to the patient and explains what he is going to do and why.</li> <li>2.- Place the patient into an adequate position (supine position, with thigh slightly separated).</li> <li>3.- Mention the material needed and choose a catheter 16F</li> <li>4.- Put on the gloves with sterile technique.</li> <li>5.- Do mild asepsia with Isodine on meatus.</li> <li>6.- Place lubricant on meatus.</li> <li>7.- Ask the assistant for the catheter and take it adequately.</li> <li>8.- Introduce catheter slowly without contaminating it.</li> <li>9.- Request siringe with 10ml of saline solution and inflate the balloon.</li> <li>10.- Attach the catheter on the patient's leg. Attach the bag. (Mention the information the patch must have).</li> </ol>	<p>Learning activities</p> <p>The professor offers a lecture with the contents presented in an oral exposition with visual aids.</p> <p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.</p>	<p>Contents</p> <p>Principles of preoperative and operative surgery</p> <p>Surgical infections.</p> <p>Surgical Complications.</p> <p>Medical obesity</p> <p>Principles of anesthesiology, pain treatment and conscious sedation</p> <p>Evaluation scale of preoperative surgical risk: ASA, GOLDMAN, LEE</p> <p>Procedural content.</p> <p>Collects essential and accurate information about the patients through the elaboration of clinical records.</p> <p>Acknowledges the importance of referring the patient to a medical</p>	<p>Resources</p> <p>Classrooms from the School of Medicine</p> <ul style="list-style-type: none"> <li>• Internet</li> <li>• Computer</li> <li>• Projector</li> <li>• Power point presentations</li> <li>• Videos</li> <li>• Whiteboard</li> <li>• Outpatient services, admissions and operations rooms at the University Hospital UANL</li> <li>• Outpatient Surgery Rooms, General Surgery Service</li> <li>• Centro de Evaluación y Admisión de Pacientes, Quirófano, UANL</li> <li>• Text books</li> <li>• Reference papers</li> <li>• Internet resources</li> </ul>
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## Etapa 2. Perioperative period.

### Component(s) of the competence:

Analyze the patient's state at the moment before the surgery through a general evaluation made at the laboratory and specialized tests in order to offer an opportune correction to his diseases.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services</li> </ul>	<p><b>On-Call shifts:</b> Primary health care attention for the admitted patient.</p> <p>Participation in assisting admitted and emergency room patients.</p> <p>Assistance in Operations Room, as surgical assistant.</p> <p>Elaboration of clinical records: Verification Questioning.</p> <p>Physical examination oriented to pathology.</p> <p>Deduce differential diagnostics.</p> <p>Search for concrete evidence through laboratory and cabinet studies.</p> <p>Makes an integration of all the data obtained to make</p>	<p>The professor offers a lecture with the contents presented in an oral exposition with visual aids.</p> <p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.</p>	<p>Principles of preoperative and operative surgery</p> <p>Surgical infections.</p> <p>Surgical Complications.</p> <p>Morbid obesity</p> <p>Principles of anesthesiology, pain treatment and conscious sedation.</p> <p>Evaluation scale of preoperative surgical risks: ASA GOLDMAN LEE</p> <p><b>Procedural content.</b> Collects essential and accurate information about the patients through the elaboration of clinical records. Acknowledges the importance of referring the patient to a medical</p>	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos.</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> <li>Research articles.</li> </ul>



	<p>a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination .</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> </ul> <p>Consults follow-up patients under supervision</p> <p>Describe the evaluation form to determine the preoperative surgical risk :</p> <ul style="list-style-type: none"> <li>• ASA</li> <li>• GOLDMAN</li> <li>• LEE</li> </ul> <p>Recognizes the types of scales.</p> <p>Interprets each of the scales.</p> <p>Explains each of them in the clinical situation given.</p>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the correct technique of the nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the</p>	<p>specialty determined according to the needs shown by the pre-surgical evaluation.</p> <p>Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.</p> <p>Observes the follow-up on subsequent or post-surgery patients.</p> <p>Explains orally the patient's clinical record and evolution.</p> <p>Explains and advises patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p>	
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		<p>assistance needed by the patient.</p> <p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at</p>	<p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p> <p>Adequate management and use of materials.</p> <p>Correct management of biological and non biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code</p>	
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<p>Stage 1: Trauma</p> <p>Comprehension of the emergency situation</p> <p>Acknowledging the importance of the first evaluation as the first stage of attention to multiple injured patients in order to identify the specialized areas needed for attention to each</p>	<p>of the first evaluation as the first stage of attention to multiple injured patients in order to identify the specialized areas needed for attention to each</p>	<p>elective or emergency surgeries.</p> <p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p>	<p>injured patients in order to identify the specialized areas needed for attention to each</p>	<p>injured patients in order to identify the specialized areas needed for attention to each</p>
<p>Evidence of student learning</p> <p>Performance evaluation of the clinical practice</p> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services</li> </ul>	<p>Performance Criteria</p> <p>On-Call shifts:</p> <p>Primary health care attention for the admitted patient.</p> <p>Participation in assessing admitted and emergency room patients</p> <p>Assistance in Operations Room as surgical assistant.</p> <p>Elaboration of clinical records. Verification</p> <p>Questioning</p> <p>Physical examination oriented to pathology</p> <p>Deduce differential diagnosis</p> <p>Search for scientific evidence through laboratory and patient studies.</p> <p>Makes an integration of all the data obtained to make a final diagnosis and</p>	<p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.</p> <p>Students establish a connection between their</p>	<p>Contents</p> <p>Conceptual Content</p> <p>Integral evaluation of polytrauma patient.</p> <p>Thoracic and neck trauma.</p> <p>Abdominal trauma.</p> <p>Pelvic, upper and lower limbs trauma.</p> <p>Genitourinary trauma.</p> <p>Bliss and strings.</p> <p>Procedural Content</p> <p>Makes a first evaluation of a multiple-injured patient</p> <p>Collects essential and accurate information about the patients through the elaboration of clinical records.</p> <p>Deduces a diagnosis and treatment based on</p>	<p>Resources</p> <ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Intranet.</li> <li>Computer</li> <li>Projector</li> <li>Power point presentations.</li> <li>Videos.</li> <li>Whiteboard</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Administración Médica Outpatient, CREAM</li> <li>Text books</li> <li>Reference books</li> <li>Research articles</li> </ul>



### Etapas 3. Trauma

#### Component(s) of the competence:

Acknowledge the importance of the first evaluation as the first stage of attention to multiple injured patients in order to identify the specialized areas needed for attention to obtain a specific treatment.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services</li> </ul>	<b>On-Call shifts:</b> Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records: Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnostics.  Search for concrete evidence through laboratory and cabinet studies.  Makes an integration of all the data obtained to make a final diagnostic and	The professor offers a lecture with the contents presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.  Students establish a connection between their	<b>Conceptual Content</b> Integral evaluation of polytrauma patient.  Thoracic and neck trauma.  Abdominal trauma.  Pelvic, upper and lower limbs trauma.  Genitourinary trauma.  Bites and stings.  <b>Procedural Content</b> Makes a first evaluation of a multiple-injured patient  Collects essential and accurate information about the patients through the elaboration of clinical records.  Deduces a diagnostic and treatment based on	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos,</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> <li>Research articles.</li> </ul>



First evaluation instrument	<p>establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination.</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> </ul> <p>• Consults follow-up patients under supervision.</p> <p>Evaluate correctly:</p> <p>A. Permeable air way with cervical control: Identify the presence of the following:</p> <ul style="list-style-type: none"> <li>- Laryngeal estridor</li> <li>- Changes of tone voice.</li> </ul> <p>Strange bodies</p> <p>B. Ventilation: Identify:</p> <ul style="list-style-type: none"> <li>- Tensión pneumothorax</li> <li>- Cardiac tamponade.</li> <li>- Unstable thorax.</li> </ul>	<p>basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the assistance needed by the patient.</p>	<p>modern scientific evidence and clinical judgement.</p> <p>Observes the follow-up on subsequent or post-surgery patients.</p> <p>Explains orally the patient's clinical record and evolution.</p> <p>Explains and advices patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p>	
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	<ul style="list-style-type: none"> <li>- Massive hemothorax</li> <li>- Pneumothorax open.</li> <li>- Dissection due to aortic rupture.</li> </ul> <p>C. Circulatory status: Identify clinical signs of hypovolemic:</p> <ul style="list-style-type: none"> <li>- Disorientation.</li> <li>- Diaphoresis.</li> <li>- Paleness.</li> <li>- Hypothermia.</li> <li>- Tachycardia.</li> </ul> <p>D. Neurological status: Identify:</p> <ul style="list-style-type: none"> <li>- Shape and size of pupils.</li> <li>- Brief neurological examination (alert, responds verbally, responds to painful stimuli, unconscious).</li> </ul> <p>E. Exhibition Injury identification. Anterior and posterior body revision.</p> <ul style="list-style-type: none"> <li>- Environment.</li> <li>- Kinematics of trauma.</li> </ul>	<p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advise the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at elective or emergency surgeries.</p>	<p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p> <p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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Phase 4. Surgery-Oncology	Second evaluation:  - Complete physical examination	The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.		
Component(s) of the component: Participate in the clinical practice of the pathology	Performance Criteria	Learning activities	Contents	Resources
Evidence of student learning	On-Call shifts: Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records. Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnosis.  Search for concrete evidence through laboratory and cabinet studies	The professor offers a lecture with the scenarios presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are analyzing the contents correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the examples presented.	Conceptual content: Tumoral biology and tumor markers.  Melanoma.  Soft tissue sarcomas.  Procedural content: Collects essential and accurate information about the patients through the elaboration of clinical records.  Derives a diagnostic and treatment based on modern scientific evidence and clinical judgement.  Observes the follow-up on subsequent or post-surgery patients.  Explains orally the patient's clinical record and evolution.	• Classrooms from the School of Medicine. • Internet. • Computer. • Projector. • Power point presentations. • Videos. • Whiteboard. • Outpatient services, admissions and operations rooms at the University Hospital UANL.  • Outpatient Surgery Rooms. General Surgery Service.  • Centro de Diagnóstico y Referencia Epidemiológicos. • Quirófanos, Catéteres.  • Text books. • Internet.



#### Phase 4. Surgical Oncology.

##### Component(s) of the competence:

Recognize the oncological pathologies with surgical needs as well as its complications to provide the patient with adequate information about his pathology.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> </ul>	<b>On-Call shifts:</b> Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records: Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnostics.  Search for concrete evidence through laboratory and cabinet studies.	The professor offers a lecture with the contents presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.	<b>Conceptual content</b> Tumoral biology and tumor makers.  Melanoma.  Soft tissue sarcomas  <b>Procedural content.</b> Collects essential and accurate information about the patients through the elaboration of clinical records.  Deduces a diagnostic and and treatment based on modern scientific evidence and clinical judgement.  Observes the follow-up on subsequent or post-surgery patients.  Explains orally the patient's clinical record and evolution.	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos,</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination .</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the assistance needed by the patient.</p>	<p>Explains and advices patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p> <p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p>	<ul style="list-style-type: none"> <li>• Research articles.</li> </ul>
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		<p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at elective or emergency surgeries.</p>	<p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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<p><b>Phase 5: Mammary Pathology.</b></p> <p>Components of the curriculum: Recognize different pathologies from the mammary gland by pathology.</p>		<p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p>		
<p><b>Experiences of student learning</b></p> <p>Performance evaluation in the clinical practice:</p> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services</li> </ul> <p>Demonstration on specific procedures:</p> <ul style="list-style-type: none"> <li>Complete resection of the mammary gland</li> </ul>	<p><b>Performance Criteria</b></p> <p>On-Call shifts: Primary health care attention for the admitted patient.</p> <p>Participation in assisting admitted and emergency room patients</p> <p>Assistance in Operations Room, as surgical assistant.</p> <p>Elaboration of clinical records. Verification. Questioning</p> <p>Physical coordination. Advances in pathology</p> <p>Describe differential diagnosis.</p> <p>Search for accurate results through laboratory and clinical studies</p>	<p>The professor offers a lecture with the contents presented in an oral exposition with visual aids.</p> <p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case reported by the example presented.</p>	<p><b>Contents</b></p> <p>Conceptual content: Generalities Benign breast disease and tumors</p> <p>Mammary cancer.</p> <p>Procedural content: Clinical history and accurate information about the patient through the elaboration of clinical records.</p> <p>Defines a diagnosis and treatment based on modern scientific evidence and clinical judgement.</p> <p>Observer the follow-up on subsequent or post-surgery patients.</p> <p>Explains orally the patient's clinical report and evolution.</p>	<p><b>Resources</b></p> <ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet</li> <li>Computer</li> <li>Projector</li> <li>Power point presentations.</li> <li>Videos</li> <li>Whiteboard</li> <li>Outpatient services, admission and operations rooms at the University Hospital UAHN.</li> <li>Outpatient Surgery Room, General Surgery Service</li> <li>Centro de Evaluación y Avanzamiento Médico Quirúrgico, CENAMQ</li> <li>Text books.</li> <li>Reference books</li> <li>Research articles</li> </ul>



## Phase 5. Mammary Pathology.

### Component(s) of the competence:

Recognize different pathologies from the mammary gland with surgical needs in order to provide the patient with comprehensive information about his pathology.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> </ul> <b>Demonstration on specific procedures:</b> <ul style="list-style-type: none"> <li>Complete examination of the mammary gland</li> </ul>	<b>On-Call shifts:</b> Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records: Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnostics.  Search for concrete evidence through laboratory and cabinet studies.	The professor offers a lecture with the contents presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.	<b>Conceptual content</b> Generalities. Benign breast disease and tumors.  Breast cancer.  <b>Procedural content.</b> Collects essential and accurate information about the patients through the elaboration of clinical records.  Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.  Observes the follow-up on subsequent or post-surgery patients.  Explains orally the patient's clinical record and evolution.	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos,</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> <li>Research articles.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination.</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul> <p><b>Complete examination of the mammary gland</b></p> <p><u>Procedure:</u></p> <ul style="list-style-type: none"> <li>• Mentions the importance of the presence of a nurse or a relative</li> <li>• Torso must be uncovered.</li> <li>• The patient must be seated.</li> <li>• The doctor gets in front of the patient.</li> </ul>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsis.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the assistance needed by the patient.</p>	<p>Explains and advises patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p> <p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p>	
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	<p><u>Inspection:</u></p> <ul style="list-style-type: none"> <li>• Identify correctly:</li> <li>• Asymmetry.</li> <li>• Changes in skin color.</li> <li>• Skin dimples.</li> <li>• Nipple retraction.</li> </ul> <p><u>Palpation:</u></p> <p>Perform correctly:</p> <ul style="list-style-type: none"> <li>• Compress gently on the gland with the fingers.</li> <li>• Use three fingertips clockwise searching tumors.</li> <li>• Locate painful sites.</li> <li>• Find tumor.</li> <li>• Location.</li> <li>• Size.</li> <li>• Shape.</li> <li>• Consistency.</li> <li>• Delimitation.</li> <li>• Mobility.</li> <li>• Palpate the nipple with the index finger and thumb.</li> <li>• Nipple elasticity.</li> <li>• Squeeze nipple to look for abnormal discharge.</li> <li>• Apply the palmar finger to the breast and move gently looking for dimple formation.</li> </ul>	<p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at elective or emergency surgeries.</p>	<p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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<p><b>Stage 6. Endocrinal surgery</b></p> <p>Component(s) of the competence: Recognize different endocrinal pathologies which require surgery</p>	<ul style="list-style-type: none"> <li>Examine the presence of axillary nodes.</li> </ul>	<p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p>	<p>Provide the patient with comprehensive information about</p>	
Evidence of student learning	Performance Criteria		Contents	Resources
<p>Performance evaluation on the clinical practice:</p> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> </ul>	<p>On-Call shifts: Primary health care attention for the admitted patient.</p> <p>Participation in assisting admitted and emergency room patients.</p> <p>Assistance in Operations Room, as surgical assistant.</p> <p>Elaboration of clinical records: Verification Questioning</p> <p>Physical examination oriented to pathology</p> <p>Deduce differential diagnosis.</p> <p>Search for concrete evidence through laboratory and cabinet studies.</p>	<p>The professor offers a lecture with the contents presented in an oral exposition with visual aids.</p> <p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.</p>	<p>Conceptual content Thyroid gland. Parathyroid glands. Exocrine pancreas. Adrenal glands. Spleen.</p> <p>Procedural content. Collects essential and accurate information about the patients through the elaboration of clinical records.</p> <p>Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.</p> <p>Observes the follow up of subsequent or post-operative patients.</p> <p>Explains why it is necessary clinical record and evidence.</p>	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet</li> <li>Computer</li> <li>Projector</li> <li>Power point presentation</li> <li>Whiteboard</li> <li>Outpatient services at the Primary Hospital</li> <li>Emergency Surgery</li> <li>Emergency Surgery Center</li> <li>Manual de Evoluções / Análises de Médica Cirúrgica, CEFVAM</li> <li>Text books</li> <li>Reference books</li> </ul>



## Etapa 6. Endocrinal surgery.

### Component(s) of the competence:

Recognize different endocrinal pathologies which require surgical intervention in order to provide the patient with comprehensive information about his pathology.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> </ul>	<b>On-Call shifts:</b> Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records: Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnostics.  Search for concrete evidence through laboratory and cabinet studies.	The professor offers a lecture with the contents presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.	<b>Conceptual content</b> Thyroid gland. Parathyroid glands. Exocrine pancreas. Adrenal glands. Spleen.  <b>Procedural content.</b> Collects essential and accurate information about the patients through the elaboration of clinical records.  Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.  Observes the follow-up on subsequent or post-surgery patients.  Explains orally the patient's clinical record and evolution.  Explains and advices	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos.</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination.</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the assistance needed by the patient.</p>	<p>patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p> <p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p>	<ul style="list-style-type: none"> <li>• Research articles.</li> </ul>
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		<p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at elective or emergency surgeries.</p>	<p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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		<p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p>		
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## Phase 7. Digestive, Hepatobiliary surgery and abdominal organs transplant

### Component(s) of the competence:

Recognize different gastrointestinal pathologies with surgical needs, as well as directions for transplant needed in order to provide the patient with comprehensive information about his pathology.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> <li>Clinical case resolution in simulating patients with: <ul style="list-style-type: none"> <li>Cholecystitis.</li> <li>Cholecystolithiasis.</li> <li>Appendicitis.</li> </ul> </li> </ul>	<b>On-Call shifts:</b> Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records: Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnostics.  Search for concrete evidence through laboratory and cabinet studies.	The professor offers a lecture with the contents presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.	Observes the follow-up on subsequent or post-surgery patients.  Explains orally the patient's clinical record and evolution.  Explains and advises patients and relatives about general health care measures.  Safety of the surgical patient: Acknowledges the importance of identifying the patient.  Identifies patients which have the risk of falling down from bed.  Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos.</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination .</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul> <p><b>Cholecystitis:</b> Clinical case. Interrogatory. Accompanying phenomena. Physical examination. Paraclinical exams. Diagnostic. Treatment.</p> <p><b>Cholecystolithiasis:</b> Clinical case. Interrogatory. Accompanying phenomena.</p>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the</p>	<p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p> <p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	<ul style="list-style-type: none"> <li>• Research articles.</li> </ul>
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	<p>Physical examination.          Paraclinical exams.          Diagnostic.          Treatment.</p> <p><b>Appendicitis:</b>          Clinical case.          Interrogatory.          Accompanying          phenomena          Physical examination.          Paraclinical exams.          Diagnostic.          Treatment.</p>	<p>assistance needed by the patient.</p> <p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at</p>		
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<p><b>Phase 2: Abdominal wall.</b></p> <p>Components of the component: Recognize different pathology and refer to a medical specialty opportunity.</p>	<p>From the abdominal wall a surgical specialty opportunity.</p>	<p>elective or emergency surgeries.</p> <p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p>	<p>provide the patient with comprehensive information about his</p>	<p>new information about his</p>
Evidence of student learning	Performance Criteria		Content	Resources
<p><b>Performance evaluation on the clinical practice:</b></p> <ul style="list-style-type: none"> <li>On-call shifts</li> <li>Outpatient service</li> </ul>	<p><b>On-Call shifts:</b> Primary health care attention for the admitted patient.</p> <p>Participation in assisting admission and emergency room patients.</p> <p>Assistance in Operations Room, as surgical assistant.</p> <p>Elaboration of clinical records: Verification Questioning</p> <p>Physical examination oriented to pathology</p> <p>Derive differential diagnosis</p> <p>Search for concrete evidence through laboratory and cabinet studies</p>	<p>and the contents presented in an oral exposition with visual aids</p> <p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case presented or the example presented.</p>	<p><b>Conceptual content:</b> Belly button</p> <p>Peritoneum</p> <p>Mesentery</p> <p>Omentum</p> <p><b>Antropotomium</b></p> <p>Herms</p> <p><b>Procedural content:</b> Collects essential and accurate information about the patients through the elaboration of clinical records</p> <p>Derives a diagnosis and treatment based on modern scientific evidence and clinical judgment.</p> <p>Observes the follow-up on subsequent or post-surgery patients</p>	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine</li> <li>Internet</li> <li>Computer</li> <li>Projector</li> <li>Power point presentations</li> <li>Videos</li> <li>Whiteboard</li> <li>Outpatient services: admissions and operations rooms of the University Hospital UANL</li> <li>Outpatient Surgery Room: General Surgery Service</li> <li>Centro de Asesoría y Asistencia a la Investigación Científica</li> <li>Library</li> <li>Postgraduate courses</li> <li>Postgraduate courses</li> </ul>



## Phase 8. Abdominal wall.

### Component(s) of the competence:

Recognize different pathologies from the abdominal wall with surgical needs in order to provide the patient with comprehensive information about his pathology and refer to a medical specialty opportunely.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> </ul>	<b>On-Call shifts:</b> Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records: Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnostics.  Search for concrete evidence through laboratory and cabinet studies.	The professor offers a lecture with the contents presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.	<b>Conceptual content</b> Belly button  Peritoneum.  Mesentery.  Omentum.  Retroperitoneum.  Hernias.  <b>Procedural content.</b> Collects essential and accurate information about the patients through the elaboration of clinical records.  Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.  Observes the follow-up on subsequent or post-surgery patients.	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos,</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> <li>Research articles.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination .</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the</p>	<p>Explains orally the patient's clinical record and evolution.</p> <p>Explains and advices patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p> <p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p>	
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		<p>assistance needed by the patient.</p> <p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at</p>	<p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p> <p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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## Phase 9. Pediatric and geriatric surgery.

### Component(s) of the competence:

Recognize different pathologies in the pediatric and geriatric patient to refer them to a medical specialty opportunistly and avoid complications due to a late diagnostic.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services.</li> </ul>	<b>On-Call shifts:</b> Primary health care attention for the admitted patient.  Participation in assisting admitted and emergency room patients.  Assistance in Operations Room, as surgical assistant.  Elaboration of clinical records: Verification Questioning.  Physical examination oriented to pathology.  Deduce differential diagnostics.  Search for concrete evidence through laboratory and cabinet studies.	The professor offers a lecture with the contents presented in an oral exposition with visual aids.  At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.  The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.  The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.	<b>Conceptual Content</b> Pediatric surgery: Digestive alteration.  Geriatric surgery: Establishment of treatment objectives. Physiological decline. Specific postoperative complications Surgery of the main organic systems  <b>Procedural content.</b>  Collects essential and accurate information about the patients through the elaboration of clinical records.  Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos.</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</li> <li>Text books.</li> <li>Reference books.</li> <li>Research articles.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination.</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the assistance needed by the patient.</p>	<p>Observes the follow-up on subsequent or post-surgery patients.</p> <p>Explains orally the patient's clinical record and evolution.</p> <p>Explains and advises patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p> <p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p>	
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		<p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at elective or emergency surgeries.</p>	<p>Active participation in all the interventions required.</p> <p>Confidentiality for managing information.</p> <p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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<p>Step 13. Thorax and Pericardial Artery Surgery.</p> <p>Component(s) of the competency: Identify the most frequent anamnestical in the thorax and pericardium.</p>	<p>Performance Criteria</p> <p>On-Call shift: Primary health care attention for the admitted patient.</p> <p>Participation in assisting admitted and emergency and patients.</p> <p>Assistance in Operations Room as surgical assistant.</p> <p>Elaboration of clinical records: verification, transcribing.</p> <p>Physical examination according to pathology.</p> <p>Verify differential diagnosis.</p> <p>Search for concrete evidence through laboratory and radiological studies.</p>	<p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p> <p>The professor offers a lecture with the contents presented in an oral exposition with visual aids.</p> <p>At the oral presentation, the professor has interaction with the students following the oral questions strategy based on the knowledge acquired with students' individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes various questions to ensure the students are acquiring the concepts correctly.</p> <p>The professor offers various examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.</p>	<p>Contents</p> <p>Conceptual content: Thoracic wall and pleura. Lung. Mediastinum. Aorta. Pericardial artery (dissection). Vascular disease. Lymphatic.</p> <p>Procedural content: Collate anamnestical and physical information about the patient through the elaboration of clinical records.</p> <p>Verify a diagnostic and treatment based on modern scientific evidence and clinical judgement.</p> <p>Resolves the follow-up on subsequent or post-surgery events.</p>	<p>Resources</p> <ul style="list-style-type: none"> <li>• Classrooms from the School of Medicine.</li> <li>• Internet.</li> <li>• Literature.</li> <li>• Projector.</li> <li>• Power point presentations.</li> <li>• Videos.</li> <li>• Whiteboard.</li> <li>• Outpatient and inpatient admissions and consultations from the University Hospital of LAH.</li> <li>• Outpatient Clinic from the Hospital General de LAH.</li> <li>• Laboratory of Hematology and Coagulation from the Hospital General de LAH.</li> <li>• Laboratory of Radiology from the Hospital General de LAH.</li> <li>• Laboratory of Pathology from the Hospital General de LAH.</li> <li>• Laboratory of Microbiology from the Hospital General de LAH.</li> <li>• Laboratory of Immunology from the Hospital General de LAH.</li> <li>• Laboratory of Cardiology from the Hospital General de LAH.</li> <li>• Laboratory of Neurology from the Hospital General de LAH.</li> <li>• Laboratory of Pediatrics from the Hospital General de LAH.</li> <li>• Laboratory of Geriatrics from the Hospital General de LAH.</li> <li>• Laboratory of Oncology from the Hospital General de LAH.</li> <li>• Laboratory of Endocrinology from the Hospital General de LAH.</li> <li>• Laboratory of Rheumatology from the Hospital General de LAH.</li> <li>• Laboratory of Nephrology from the Hospital General de LAH.</li> <li>• Laboratory of Hepatology from the Hospital General de LAH.</li> <li>• Laboratory of Gastroenterology from the Hospital General de LAH.</li> <li>• Laboratory of Pulmonology from the Hospital General de LAH.</li> <li>• Laboratory of Dermatology from the Hospital General de LAH.</li> <li>• Laboratory of Otorhinolaryngology from the Hospital General de LAH.</li> <li>• Laboratory of Ophthalmology from the Hospital General de LAH.</li> <li>• Laboratory of Neurosurgery from the Hospital General de LAH.</li> <li>• Laboratory of Plastic Surgery from the Hospital General de LAH.</li> <li>• Laboratory of Urology from the Hospital General de LAH.</li> <li>• Laboratory of Gynecology from the Hospital General de LAH.</li> <li>• Laboratory of Obstetrics from the Hospital General de LAH.</li> <li>• Laboratory of Pediatrics from the Hospital General de LAH.</li> <li>• Laboratory of Geriatrics from the Hospital General de LAH.</li> <li>• Laboratory of Oncology from the Hospital General de LAH.</li> <li>• Laboratory of Endocrinology from the Hospital General de LAH.</li> <li>• Laboratory of Rheumatology from the Hospital General de LAH.</li> <li>• Laboratory of Nephrology from the Hospital General de LAH.</li> <li>• Laboratory of Hepatology from the Hospital General de LAH.</li> <li>• Laboratory of Gastroenterology from the Hospital General de LAH.</li> <li>• Laboratory of Pulmonology from the Hospital General de LAH.</li> <li>• Laboratory of Dermatology from the Hospital General de LAH.</li> <li>• Laboratory of Otorhinolaryngology from the Hospital General de LAH.</li> <li>• Laboratory of Ophthalmology from the Hospital General de LAH.</li> <li>• Laboratory of Neurosurgery from the Hospital General de LAH.</li> <li>• Laboratory of Plastic Surgery from the Hospital General de LAH.</li> <li>• Laboratory of Urology from the Hospital General de LAH.</li> <li>• Laboratory of Gynecology from the Hospital General de LAH.</li> <li>• Laboratory of Obstetrics from the Hospital General de LAH.</li> </ul>
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## Etapa 10. Thorax and Peripheral Artery Surgery.

### Component(s) of the competence:

Identify the most frequent abnormalities in the thorax and peripheral artery which require surgical intervention to be referred to a medical specialty opportunely.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
<b>Performance evaluation on the clinical practice:</b> <ul style="list-style-type: none"> <li>On-call shifts.</li> <li>Outpatient services</li> </ul> <p>Ankle-arm index measurement</p> <p>Obtain Arterial gases</p> <p>Arterial (vascular) exploration.</p> <p>Venous exploration</p>	<p><b>On-Call shifts:</b> Primary health care attention for the admitted patient.</p> <p>Participation in assisting admitted and emergency room patients.</p> <p>Assistance in Operations Room, as surgical assistant.</p> <p>Elaboration of clinical records: Verification Questioning.</p> <p>Physical examination oriented to pathology.</p> <p>Deduce differential diagnostics.</p> <p>Search for concrete evidence through laboratory and cabinet studies.</p>	<p>The professor offers a lecture with the contents presented in an oral exposition with visual aids.</p> <p>At the oral presentation, the professor has interaction with the students following the direct questions strategy based on the knowledge acquired with students' individual previous analysis of the material.</p> <p>The professor offers clinical examples and makes analysis questions to make sure students are acquiring the concepts correctly.</p> <p>The professor offers examples regarding different pathologies. He interacts with the students through questions related to the case analyzed or the example presented.</p>	<p><b>Conceptual content</b> Thoracic wall and pleura. Lung. Mediastinum. Aorta. Peripheral artery disease Venous disease. Lymphatic</p> <p><b>Procedural content.</b> Collects essential and accurate information about the patients through the elaboration of clinical records.</p> <p>Deduces a diagnostic and treatment based on modern scientific evidence and clinical judgement.</p> <p>Observes the follow-up on subsequent or post-surgery patients.</p>	<ul style="list-style-type: none"> <li>Classrooms from the School of Medicine.</li> <li>Internet.</li> <li>Computer.</li> <li>Projector.</li> <li>Power point presentations.</li> <li>Videos,</li> <li>Whiteboard.</li> <li>Outpatient services, admissions and operations rooms at the University Hospital UANL.</li> <li>Outpatient Surgery Rooms, General Surgery Service.</li> <li><i>Centro de Evaluación y Adiestramiento Médico Quirúrgico, CEVAM.</i></li> <li>Text books.</li> <li>Reference books.</li> <li>Research articles.</li> </ul>



	<p>Makes an integration of all the data obtained to make a final diagnostic and establish a specific treatment.</p> <p><b>Outpatient services:</b> Participation in the elaboration of clinical records in first time patients:</p> <ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Physical examination.</li> <li>• Integration for diagnostic from clinical, laboratory and specialized studies.</li> <li>• Consults follow-up patients under supervision.</li> </ul> <p>Ankle-arm index measurement</p> <p>Obtain Arterial gases</p> <p>Arterial (vascular) exploration.</p> <p>Venous exploration</p>	<p>Students establish a connection between their basic knowledge and the manifestations presented in order to draw conclusions.</p> <p>The student uses the problem based learning strategy as an already-known case is transformed with some variations which the student will have to solve either at the discussion sessions, in class, or at the visit pass.</p> <p>The student collects information about the patients and their ailments through the elaboration of complete clinical records.</p> <p>Student practice and demonstrate the preoperative asepsia.</p> <p>Student practice and demonstrate the technique of nasogastrical tube and urinary catheter insertion.</p> <p>Under the professor's supervision, the student makes interventions or procedures required by the pathology and provides the assistance needed by the patient.</p>	<p>Explains orally the patient's clinical record and evolution.</p> <p>Explains and advises patients and relatives about general health care measures.</p> <p>Safety of the surgical patient: Acknowledges the importance of identifying the patient.</p> <p>Identifies patients which have the risk of falling down from bed.</p> <p>Acknowledges the importance of "time out" right before performing a procedure or surgical intervention.</p> <p><b>Attitudinal content</b></p> <p>Communicates effectively.</p> <p>Addresses people adequately and shows respectful behaviors when addressing patients, relatives and medical personnel.</p> <p>Active participation in all the interventions required.</p>	
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		<p>The student makes the visit pass with the professor to check up the clinical records and the patient's evolution; at the end of the visit, they will comment in private on the clinical situation each patient has.</p> <p>The student observes the follow-up for each subsequent or post-surgery patient.</p> <p>The student makes physical examinations to first time patients assisted by a professor.</p> <p>The student informs and explains the patient facts about the disease.</p> <p>The students explain and advices the patients and relatives about general health care measures.</p> <p>The student records his activities at the format for Clinical Competences at Outpatient services.</p> <p>Participates actively as an assistant or observer at elective or emergency surgeries.</p>	<p>Confidentiality for managing information.</p> <p>Adequate management and use of materials.</p> <p>Correct management of biological and non-biological wastes.</p> <p>Takes care of the hospital and school facilities.</p> <p>Respects the dress code.</p>	
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<p>1. <b>Case presentation</b></p> <p>Present the patient's history, physical examination, and laboratory findings. Discuss the patient's social history, family history, and past medical history.</p>	<p>2. <b>Diagnosis</b></p> <p>Discuss the patient's diagnosis and the evidence supporting it. Discuss the patient's differential diagnosis and the evidence supporting it.</p>	<p>The student discusses with the professor documented and justified decisions about the diagnostic and therapies or treatments based on the patient's information and scientific modern evidence, as well as clinical criteria.</p>		
<p>3. <b>Management</b></p> <p>Discuss the patient's management and the evidence supporting it. Discuss the patient's differential management and the evidence supporting it.</p>	<p>4. <b>Prognosis</b></p> <p>Discuss the patient's prognosis and the evidence supporting it. Discuss the patient's differential prognosis and the evidence supporting it.</p>			
<p>5. <b>Conclusion</b></p> <p>Summarize the patient's case and the evidence supporting it. Discuss the patient's differential conclusion and the evidence supporting it.</p>	<p>6. <b>References</b></p> <p>Discuss the patient's references and the evidence supporting it. Discuss the patient's differential references and the evidence supporting it.</p>			
<p>7. <b>Discussion</b></p> <p>Discuss the patient's discussion and the evidence supporting it. Discuss the patient's differential discussion and the evidence supporting it.</p>	<p>8. <b>Conclusion</b></p> <p>Summarize the patient's case and the evidence supporting it. Discuss the patient's differential conclusion and the evidence supporting it.</p>			
<p>9. <b>References</b></p> <p>Discuss the patient's references and the evidence supporting it. Discuss the patient's differential references and the evidence supporting it.</p>	<p>10. <b>Conclusion</b></p> <p>Summarize the patient's case and the evidence supporting it. Discuss the patient's differential conclusion and the evidence supporting it.</p>			
<p>11. <b>Discussion</b></p> <p>Discuss the patient's discussion and the evidence supporting it. Discuss the patient's differential discussion and the evidence supporting it.</p>	<p>12. <b>Conclusion</b></p> <p>Summarize the patient's case and the evidence supporting it. Discuss the patient's differential conclusion and the evidence supporting it.</p>			
<p>13. <b>References</b></p> <p>Discuss the patient's references and the evidence supporting it. Discuss the patient's differential references and the evidence supporting it.</p>	<p>14. <b>Conclusion</b></p> <p>Summarize the patient's case and the evidence supporting it. Discuss the patient's differential conclusion and the evidence supporting it.</p>			



## 7. Summative Evaluation

Performance evaluation on a daily practice basis:

Clinical competences and On-call shifts.....	10%
Rooms and consultation.....	10%
Final exam on Clinical Competences.....	10%
BLS Courses accreditation.....	10%
Partial exam .....	15%
Partial exam .....	15%
Partial exam .....	15%
Final exam .....	15%
<b>Total.....</b>	<b>100%</b>

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