SKILL LAB CURRICULUM

3RD YEAR MBBS 2025

RAWALPINDI MEDICAL UNIVERSITY
RAWALPINDI
2025


بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ
In the name of Allah, the most gracious, the most merciful

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CONTENTS

PREAMBLE

The first skills labs were established at the universities of **Illinois is and Maastrichtint he 1970s** With the aim of improving clinical practical skills.

The term *"skills labs"*, an abbreviation of skills laboratories, refers to specifically equipped practice rooms functioning as training facilities offering medical students, physicians in training and other medical staff alike a protected, fault-forgiving environment for the practice of clinical skills prior to their real life application.

A clinical skills laboratory is a facility in which students, physicians, nurses and other health care professionals learn clinical, communication and information technology skills to a specified level of competence prior to or coordinated with direct patient contact. The skills laboratory helps to ensure that all students have necessary learning opportunities and appropriate assessment and feedback before approach ingreal patients.

Learning clinical skills on 'real patients' not only jeopardizes patient's safety but also raises manyethicalconcerns.Thisnecessitatedthedevelopmentofskilllaboratoriesinmedicalcollegeswhere studentslearnandpracticevariousaspectsofknowledgeandskillimpartingpositivefeaturesthatenhance the quality of the learning environment. Clinical skills acquisition is an important aspect and a bridge between gaining procedural knowledge and clinical competence. Skill laboratoriesoffera'mistakeforgiving'trainingenvironmentandstudieshaveshownthatsuchtrainingim provesproceduralskillsnotonlyinnovicesbutalsoinexperts.Thisappliestocomplexsurgicalskills as well as basic clinical skills performed by medical students. The skill laboratories help ensure all students acquire the necessary techniques and are properly assessed before practice ingonreal patients.

In addition, they support the acquisition, maintenance and enhancement of the clinical skills of students in the healthcare profession. The term 'clinical skills' involves history-taking, physical examination, clinical investigations, using diagnostic reasoning, procedural perfection, effective communication, team work and professionalism.

Alternative names for CSL may have been counteredin literature. These include clinical skills training facility, clinical skills center, clinical skills resource center, skills center,skill sunit, clinical skills learning center and professional skills lab/laboratory.

AIMS

Clinical skills laboratories can be used fort eamworkandmulti-professionaleducation.ItProvidesthestudentswiththeaccesstolearningopportunitiesinasafeandprotectedenvironment.Bridgingthegap between the class room and the clinical setting decreases students' anxiety.
Thenewlearningmethodsandeducationalstrategiesaredifficulttoemployinthetraditionalmethodusingbedsideteaching and are, therefore, best used in the CLINICAL SKILLS LABs.

Students' communication skills and attitudes can be improved by integrating these skills into the overall clinical skills program. One of the most important advantages
Of CSL sis that by integrating them into the theoretical component of the curriculum, skills are learnt within their proper context. Computer assisted learning and information technology can be used to enhance the interaction between theory and practice.

OBJECTIVES

The purpose of the clinical skill laboratory is to support the acquisition, maintenance and enhancement of the clinical skills of students in health care professions. Other objectives are:

1. To have seen the implementation of the skill
2. To have completed as kill itself several times under supervision
3. To be able to perform as kill independently and routinely

LEVELS OF LEARNING

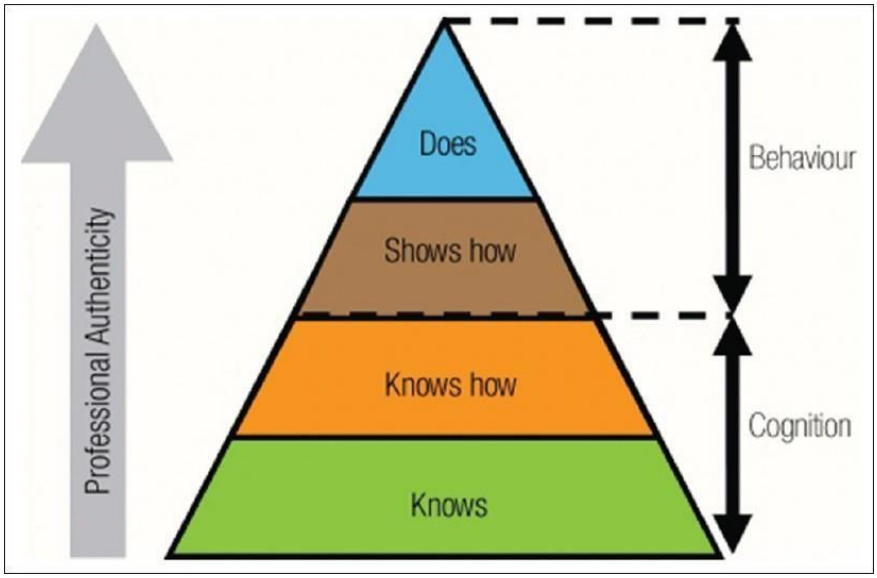
In addition to the above information this document utilizes the following description so levels of learning based on a modification of Miller's pyramid such that these levels can be equally well applied to all clinical skills whether predominantly cognitive / affective, psychomotor or a combination.

Knowsabouttheskill:This in cludesknowledge about the skill, including under lying theory behind the practice. In relation to procedural skills it involves knowledge of indications, contraindications, potential complications and alternate strategies or approaches if the skill is un successful or unable to be performed.

Knows how to perform the skill: This requires knowledge of the actual practice of the skill. In relation to procedural skills it includes not only the procedure itself but also the post-procedure care of the patient and/or specimens obtained. The student should be able to offer a simple explanation of the procedure to a patient and this would normally require that the student has observed the procedure on at least one occasion.

Shows how to perform the skill: This requires the student to be able to demonstrate performance of the skill but does not indicate or equate to competence at the skill. This would apply to skills performed at least once in the clinical environment or in a simulated setting but the experience and opportunities are insufficient to amount to the achievement of competence at the skill.

Does the skill: This level of learning indicates that the student is competent at the skill i.e. can independently perform the skill safely and effectively in the clinical setting. Competence, especially in relation to procedural skills, does not necessarily equate to successful completion of the skill on every occasion but does require the recognition of an individual's limitations and recognition by that individual.



COURSE CONTENT:

Ourstudentswillbeusingskilllabfrom1st yearMBBStillfinalyearMBBSandwilllearnthefollowingskillsinthelaboratory.

Sr.No	Year	Tasks	Supervision
1	1st year MBBS	First state Basic life support	Required
2.	2nd Year MBBS	Basic Life Support	Required
3.	3rd Year MBBS	a. Use of Injections I/M, I/V, Intradermal, subcutaneous, I/V Cannulation, Arterial Tap, Venous Tap. b. NasogastricIntubation c. Male & Female catheterization(urine) d. Endo tracheal intubation & tracheostomy e. Breast Examination f. Prostate Examination	Required
4.	4ThYear MBBS	a. Lumbar puncture b. Pelvic Examination(normal) c. Abnormal Pelvic examination. d. Stages of labour e. Episiotomy(Procedure &stitching) f. Pleural Tap	Required
5.	Final Year MBBS	a. CFR	Required

MODES OF TEACHING

The course will be administered in:

1. Skill lab settings with virtual or video demonstrations

2. Small group tutorials

3. Self-learning with help of video tape programs and internet

4. Clinicalskillslaboratoryequippedwithdummies,manikins,practicemodels,basicmedicalequipmentandworkstations

RMU COMPETENCY FRAMEWORK:

The focus of this curriculum is on the roles of a general physician, as identified by the PMDC. These roles include being skillful, knowledgeable, a community health promoter, a critical thinker, a professional and role model, a researcher, and a leader.

RMU Competency Framework

RMU Undergraduate Competency Model:

The Rawalpindi Medical University (RMU) Undergraduate Competency Model is designed to prepare medical students to meet the evolving challenges of modern healthcare. Grounded in the principles of patient-centered care, ethical practice, and community engagement, this model outlines the core competencies that every RMU graduate must attain. These competencies are carefully aligned with the needs of Pakistan's healthcare system and the broader global context, ensuring that RMU graduates are not only skilled clinicians but also ethical leaders, compassionate caregivers, and innovative problem-solvers.

The RMU Undergraduate Competency Model emphasizes a holistic approach to medical education, integrating scientific knowledge with practical skills, critical thinking, and a deep commitment to lifelong learning. Each competency is complemented by specific sub competencies that provide a clear roadmap for students' development, guiding them from foundational knowledge to advanced clinical practice.

Through this competency-based framework, RMU aims to cultivate graduates who are capable of delivering high-quality, safe, and effective care, while also advancing the health and well-being of the communities they serve. By adhering to these competencies, RMU students will be equipped to excel in diverse medical environments, adapt to the rapidly changing landscape of healthcare, and contribute positively to the society they serve.

Competency 1: Patient Care Deliverer:

The "Patient Care Deliverer" competency focuses on the practical aspects of delivering patient care. It emphasizes the importance of applying clinical skills, knowledge, and compassion in providing high-quality healthcare to

patients. Students are expected to develop a strong foundation in patient-centered care, practice-based learning, and a commitment to continuous improvement in their clinical practice.

- **Practice-Based Learning:** Students should engage in continuous learning through practical experience, applying evidence-based medicine and reflecting on their clinical practice to improve patient care.
    - Apply evidence-based medicine in clinical practice.
    - Reflect on clinical experiences to improve patient care.
    - Engage in self-directed learning to enhance clinical skills.
- **Service Orientation:** A commitment to serving others is fundamental to the practice of medicine. Students should prioritize the well-being of patients and the community, demonstrating a strong dedication to providing compassionate and effective care.
    - Demonstrate a commitment to patient-centered care.
    - Engage in community service activities.
    - Reflect on the role of service in medical practice.
    -

Competency 2: Ethical & Professional:

The "Ethical & Professional" competency encompasses the foundational principles of medical ethics and professional behavior. It requires students to uphold the highest standards of legal and ethical responsibility in their practice. They must demonstrate empathy, integrity, and accountability, treating all individuals with respect and maintaining a commitment to continuous improvement.

- **Professional & Ethical & Legal Responsibility:** Students are expected to understand and apply ethical principles and legal requirements in medical practice. They should be able to identify and analyze ethical dilemmas in healthcare settings and make decisions that prioritize patient well-being.
    - Explain ethical frameworks in medical decision-making.
    - Apply legal standards in patient care.
    - Demonstrate professionalism in all interactions.
- **Capacity for Improvement:** Students should continuously strive to improve their clinical skills, knowledge, and patient care practices through self-assessment and reflective learning.
    - Assess personal strengths and weaknesses.
    - Implement strategies for self-improvement.
    - Seek feedback from peers and mentors.
- **Empathy:** Understanding and **sharing** the feelings of patients is crucial for building trust and providing compassionate care. Students must develop the ability to empathize with patients from diverse backgrounds.
    - Demonstrate empathy in patient interactions.

    - Reflect on the emotional and psychological aspects of patient care.
    - Integrate empathy into clinical practice.
- **Integrity:** Students must practice medicine with honesty and adhere to moral and ethical principles, ensuring that their actions align with the values of the medical profession.
    - Maintain honesty in patient interactions.
    - Uphold ethical standards in clinical decision-making.
    - Demonstrate transparency in communication with patients and colleagues.
- **Accountability:** Medical students must be accountable for their actions, taking responsibility for their decisions and outcomes in patient care.
    - Take responsibility for clinical decisions.
    - Reflect on the outcomes of patient care.
    - Ensure accountability in teamwork.
- **Respect:** Respect for patients, colleagues, and the broader healthcare team is fundamental. Students should treat everyone with dignity and consideration, regardless of differences in background or beliefs.
    - Demonstrate respect in patient interactions.
    - Collaborate respectfully with team members.
    - Address cultural differences in a respectful manner.

Competency 3: Scholar & Life-Long Learner:
The "Scholar & Life-Long Learner" competency highlights the importance of continuous learning and scholarly inquiry in medical practice. Students are encouraged to engage in scientific research, develop critical thinking skills, and commit to lifelong learning to stay current in their field and contribute to the advancement of medical knowledge.

- **Living Systems:** Students should have a deep understanding of living systems and their functions, enabling them to apply this knowledge to patient care.
    - Explain the principles of living systems.
    - Apply knowledge of living systems to clinical practice.
    - Evaluate the impact of living systems on health and disease.
- **Human Behavior:** Understanding human behavior is crucial for effective patient care and communication. Students should be able to analyze behavioral factors that influence health and apply this understanding in clinical settings.
    - Analyze the impact of behavior on health outcomes.
    - Apply behavioral principles in patient care.

- Reflect on the role of behavior in health and disease.

- **Diagnose and Manage: Students** must be proficient in diagnosing and managing medical conditions, using evidence-based approaches to ensure the best possible outcomes for patients.
    - Diagnose medical conditions accurately.
    - Develop management plans for patient care.
    - Evaluate the effectiveness of treatment interventions.
- **Scientific Inquiry:** Engaging in scientific inquiry is essential for advancing medical knowledge. Students should be able to conduct research, critically appraise evidence, and contribute to the scientific community.
    - Conduct research on medical topics.
    - Critically appraise scientific literature.
    - Disseminate research findings effectively.
- **Quantitative Reasoning:** Quantitative reasoning skills are necessary for interpreting data and making informed **decisions** in medical practice. Students should be able to analyze and apply quantitative data in clinical settings.
    - Interpret quantitative data in clinical practice.
    - Apply statistical methods to medical research.
    - Reflect on the role of quantitative reasoning in decision-making.
- **Critical Thinker:** Developing critical thinking skills is vital for solving complex medical problems. Students should be able to analyze information, evaluate evidence, and make reasoned decisions in patient care.
    - Analyze clinical scenarios critically.
    - Evaluate evidence in medical practice.
    - Make informed decisions based on critical thinking.

Competency 4: Team Worker & Communicator:

The "Team Worker & Communicator" competency emphasizes the importance of effective communication and teamwork in healthcare settings. Students are expected to develop strong oral and written communication skills, work collaboratively as part of a healthcare team, and demonstrate leadership when necessary. Reliability, adaptability, and resilience are key qualities that support their ability to function effectively in diverse and dynamic clinical environments.

- **Oral and Written Communication:** Students must be able to convey medical information clearly and effectively, both verbally and in writing, to patients, families, and colleagues.

- Communicate medical information clearly.
- Develop patient-centered communication strategies.
- Write accurate and comprehensive patient records.

- **Team Member:** Students should actively participate as members of the healthcare team, contributing to collective problem-solving and decision-making processes.
  - Collaborate effectively with team members.
  - Participate in interdisciplinary case discussions.
  - Contribute to team-based patient care.
- **Team Leader: When** required, students should be able to take on leadership roles within the healthcare team, guiding and coordinating the efforts of others.
  - Lead a healthcare team in clinical settings.
  - Make decisions as a team leader.
  - Facilitate effective team communication.
- **Reliability and Dependability:** Students must consistently demonstrate reliability and dependability in fulfilling their clinical responsibilities, ensuring that they are trusted members of the healthcare team.
  - Fulfill clinical duties reliably.
  - Demonstrate dependability in patient care.
  - Maintain consistency in performance under pressure.
- **Resilience & Adaptability:** Students need to develop resilience to cope with the challenges of medical practice and adapt to changes in clinical settings.
  - Demonstrate resilience in stressful situations.
  - Adapt to changes in clinical practice.
  - Reflect on challenges and adapt strategies accordingly.

Competency 5: Community Health Promoter:

The "Community Health Promoter" competency focuses on the role of medical students in promoting health within the community. It involves educating and empowering communities, conducting assessments, and engaging with diverse populations to address public health challenges. Cultural competence and advocacy are essential in promoting health equity and improving community health outcomes.

- **Health Education and Promotion:** Students should be able to design and implement health education programs that address the specific needs of the community.
  - Develop health education materials.
  - Implement community health promotion activities.

- Evaluate the effectiveness of health education programs.

- **Community Assessment and Engagement:** Students must be capable of assessing **the** health needs of communities and engaging with community members to identify and address public health issues.
    - Conduct community health assessments.
    - Engage with community stakeholders.
    - Identify public health priorities based on community needs.
- **Cultural Competence:** Understanding and respecting cultural differences is crucial in providing effective community health promotion. Students should be able to work with diverse populations and tailor health interventions accordingly.
    - Demonstrate cultural sensitivity in community interactions.
    - Adapt health interventions to cultural contexts.
    - Reflect on cultural influences in health behaviors.
- **Advocacy and Empowerment: Students** should advocate for policies and practices that promote community health and empower individuals and communities to take control of their health.
    - Advocate for community health initiatives.
    - Empower individuals to make informed health decisions.
    - Promote policies that address social determinants of health.

Competency 6: Quality & Safety Practitioner:
The "Quality & Safety Practitioner" competency emphasizes the importance of patient safety and quality improvement in healthcare. Students are trained to understand and apply patient safety principles, comply with regulatory requirements, and collaborate with interdisciplinary teams to ensure the highest standards of care.

- **Patient Safety Principles:** Students must understand and apply patient safety principles to prevent medical errors and enhance the quality of care.
    - Identify potential safety risks in clinical practice.
    - Implement strategies to prevent medical errors.
    - Evaluate the effectiveness of patient safety interventions.
- **Regulatory Compliance:** Knowledge of and adherence to regulatory standards is essential in **maintaining** patient safety and quality care. Students must be familiar with relevant regulations and ensure compliance in their practice.
    - Understand and apply healthcare regulations.
    - Ensure compliance with legal and regulatory standards.
    - Reflect on the impact of regulations on patient safety.

- **Interdisciplinary Collaboration:** Effective collaboration with professionals from various disciplines is necessary to achieve optimal patient outcomes. Students should develop skills in working within interdisciplinary teams to enhance patient care.
    - Collaborate with interdisciplinary teams in patient care.
    - Contribute to interdisciplinary case discussions.
    - Reflect on the impact of interdisciplinary collaboration on patient outcomes.

Competency 7: Digital & Artificial Intelligence Literate:

The "Digital & Artificial Intelligence Literate" competency prepares students to navigate the rapidly evolving landscape of digital health and artificial intelligence. Students are trained to use AI-based systems ethically and effectively in diagnosis and decision-making, ensuring that technological advancements are integrated into patient care responsibly.

- **Technology and AI-Based Diagnosis and Decision-Based Systems:** Students should be proficient in using technology and AI tools for diagnosis and decision-making, ensuring that these tools enhance patient care.
    - Use AI-based tools for diagnosis.
    - Evaluate the effectiveness of technology in clinical decision-making.
    - Integrate digital tools into patient care responsibly.
- **Ethical Usage of AI:** Ethical considerations are paramount when using AI in healthcare. Students **must** understand the ethical implications of AI and ensure that its application respects patient rights and autonomy.
    - Identify ethical issues in AI usage.
    - Apply ethical principles to AI-based decisions.
    - Reflect on the impact of AI on patient care.

This framework ensures that undergraduate medical students at Rawalpindi Medical University are well-prepared to excel as competent, ethical, and compassionate healthcare professionals. By meeting these competencies and their corresponding learning objectives, students will be equipped to navigate the complexities of modern medical practice and contribute meaningfully to patient care and community health.

CLINICAL CURRICULUM

DURATION: 02 week

RATIONALE:

Skill lab is designed to provide students with opportunity to get equipped and practice the skills that are needed in routine and emergency management of patients. By learning in a controlled environment under direct supervision of an expert medical professional , they are able to perform in their clinical practices more efficiently and safely.

.**EDUCATIONAL ENVIRONMENT:**

Medical school is a habitat with many components, complex dynamics and interactions, inevitable conflicts and is constantly evolving. To facilitate healthy educational environment for 4th year medical students peer to peer interaction of students and with the faculty will be encouraged. Transfer of knowledge, skills and attitude will be in Wards, operation theatres and clinics. All these measures will enhance the learning capacity of students.

Learning Outcomes:

To equip them with essential knowledge, skill and attitude In order to enable them to

Learning Outcomes
By the end of 02 week skill lab the Students will be able to:
Perform airway assessment and manage airway
Administer drugs via different routes, mainly I.M ,I.V and sub cutaneous
Conduct breast examination
Conduct prostate examination
Perform urinary catheterization in both genders
Apply basic principles of medical ethics

EPA

1. Perform basic airway management
2. Administer medications via different routes
3. Perform Breast examination
4. Perform prostate examination
5. Perform urinary catheterization
6. Insertion of nasogastric tube

S.No	EPA	COMPETENCIES	CHECK LIST
1.	Perform basic airway management	- Knowledge of airway anatomy - Ability to assess airway patency - Proficiency in techniques like head-tilt, chin-lift, and jaw-thrust - Skill in using airway adjuncts (e.g., oropharyngeal and nasopharyngeal airways)	- Gather necessary equipment - Assess patient's airway - Apply appropriate airway maneuvers - Insert airway adjuncts as needed - Monitor patient’s ventilation and oxygenation
2.	Administer medications via various routes	- Understanding pharmacokinetics and pharmacodynamics - Knowledge of indications and contraindications for each route - Proficiency in administering drugs orally, intravenously, intramuscularly, subcutaneously, and topically - Ability to monitor and manage potential adverse reactions	Verify patient identity - Confirm drug, dose, and route - Prepare medication aseptically - Administer medication correctly - Observe and document patient’s response
3.	Perform urinary catheterization	Knowledge of urinary tract anatomy - Understanding indications and contraindications - Aseptic technique proficiency - Ability to recognize and manage complications	Explain procedure to patient - Gather and prepare sterile equipment - Perform hand hygiene and don sterile gloves - Cleanse urethral opening - Insert catheter gently - Ensure urine flow and secure catheter - Document procedure details
4.	Conduct clinical breast examination	Knowledge of breast anatomy and common pathologies - Proficiency in inspection and palpation techniques - Ability to identify abnormal findings	- Obtain informed consent - Provide privacy and appropriate draping - Inspect breasts in various positions - Palpate all quadrants systematically Examine axillary and supraclavicular

		- Effective communication skills for patient comfort	regions - Discuss findings with patient Document examination thoroughly Sensitivity and respect are crucial. Encourage regular self-examinations and provide patient education
5.	Perform digital rectal examination (DRE) of the prostate	- Understanding of prostate anatomy and common conditions - Skill in performing DRE - Ability to identify normal and abnormal findings - Communication skills to explain procedure and findings to patient	- Explain procedure and obtain consent - Ensure patient comfort and privacy - Perform hand hygiene and wear gloves - Lubricate gloved finger - Gently insert finger into rectum - Palpate prostate gland - Assess size, shape, and consistency - Withdraw finger and clean area - Discuss findings and document
6.	Perform nasogastric tube insertion	- Understand indications and contraindications for NG tube insertion. - Knowledge of nasal and gastrointestinal anatomy. - Proficiency in aseptic techniques. - Ability to confirm correct tube placement. - Effective communication skills to explain the procedure and obtain consent.	- Verify physician's order for NG tube insertion. - Perform hand hygiene and don appropriate personal protective equipment. - Introduce yourself to the patient and confirm their identity. - Explain the procedure, its purpose, and obtain informed consent. - Assess the patient's nasal patency and select the appropriate nostril. - Measure the tube length: from the tip of the nose to the earlobe, then to the xiphoid process, and mark the length. - Lubricate the distal end of the tube with water-soluble lubricant. - Position the patient in a high Fowler's position (sitting upright). - Gently insert the tube into the selected nostril, advancing it along the floor of the nasal passage. - When the tube reaches the oropharynx, encourage the patient to swallow sips of water to facilitate passage into the esophagus. - Advance the tube to the predetermined mark. - Confirm placement by aspirating gastric contents and checking pH (should be 1.0 to 5.5) PATIENT SAFETY MOVEMENT FOUNDATION - Secure the tube to the patient's nose using tape or a fixation device. - Attach the tube to the prescribed drainage or feeding setup.

			- Dispose of used equipment appropriately and perform hand hygiene. - Document the procedure, including tube size, insertion depth, confirmation of placement, and patient tolerance.

1st YEAR MBBS

FIRST AID SKILLS

TASK1:

Assemble a First Aid Kit with at least twelve essential contents.

Rationale:

It is rightly said that having first aid training un doubtedlyhelpssavelives. But that's not all though; giving immediate & appropriate first aid can be of greater help to reduce a person's recovery time and can make the difference between the patient having a temporary or long term disability. Students will learn how to remain calm in emergency situations and learn simple acronyms to help them recall the steps they need to take. First aid training will make medical students more confident and comfort able and there fore more effective and in control when they need to be.

LEARNING OBJECTIVES:

At the end of this class students will be able to:

1. Identify contents to make a first aid kit.
2. Assemble a first aid kit.

BLEEDING

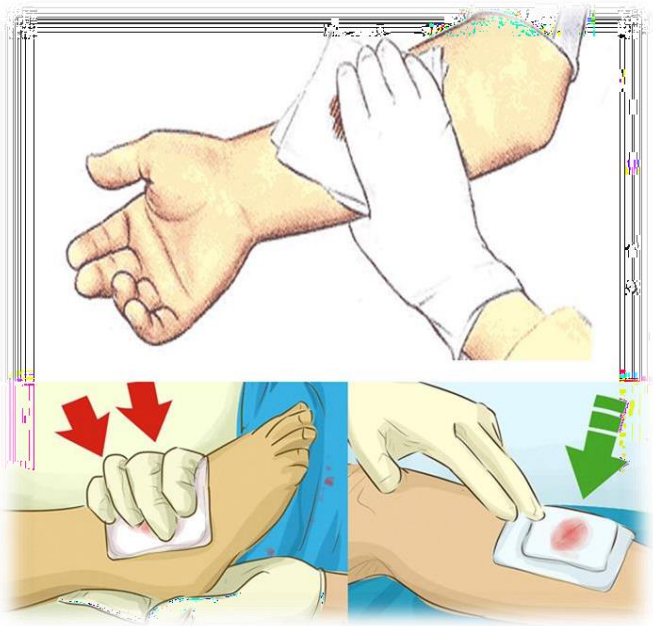
TASK 2:

Demonstrate the appropriatemethodsofmanagingexternalbleeding.(Directpressure,compressingpressurepoints,elevation).

LEARNING OBJECTIVES:

At the end of this class students will be able to:

1. Describe steps in the management of bleeding
2. Manage a patient with bleeding.



SOFT TISSUE INJURIES

TASK3:

Demonstrate proper management of soft tissue injuries.(Head, Forearm and Hand, Leg and Ankle).

LEARNING OBJECTIVES:

At the end of this class students will be able to:

1. Demonstrate how they will manage a patient with soft tissue injury.

2nd YEAR MBBS

BASIC LIFE SUPPORT

👉TASK:

Demonstrate proper steps of BLS.

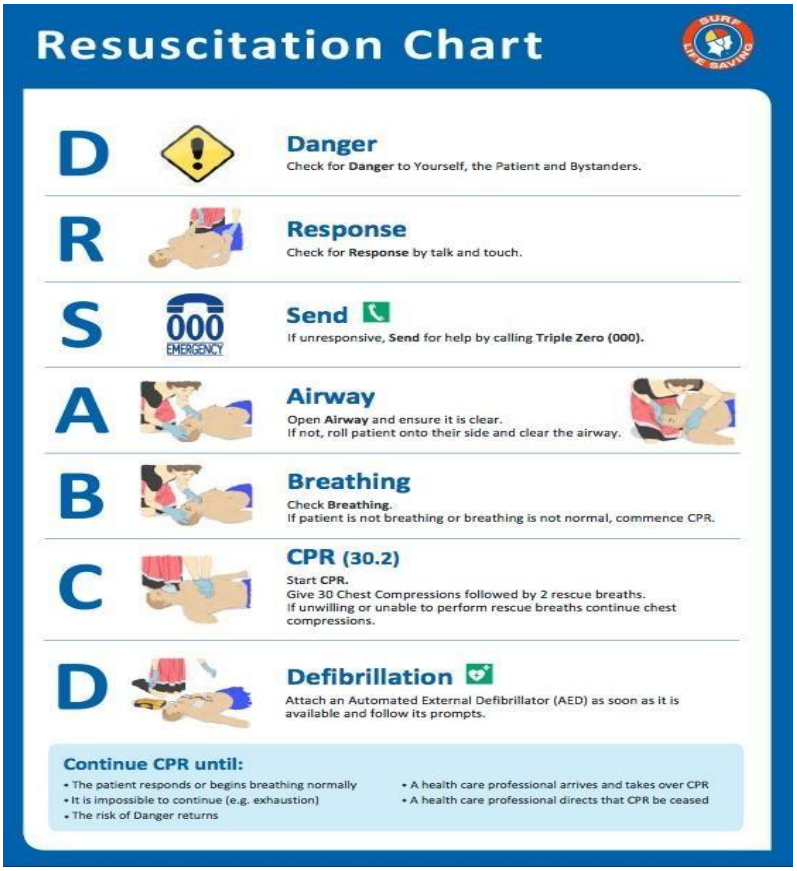
Rationale:

The skills learn edin this class will enable students to recognize emergencies such as sudden cardiac arrest & know how to respond to them, as cardiac arrest is a leading cause of death worldwide.

Learning Objectives:

At the end of thesession student should be able to

1. Enumerateindications & contraindications of CPR
2. Demonstrate the basic steps of CPR for adults & infants



3rd YEAR MBBS

NASOGASTRICIN TUBATION

TASK:

Insert a nasogastric tube in a patient (Mannequin).

RATIONALE:

By **inserting** a **nasogastric tube**, students are gaining access to the stomach and its contents. Insertion of the NG tube can be done in 2 main scenarios.

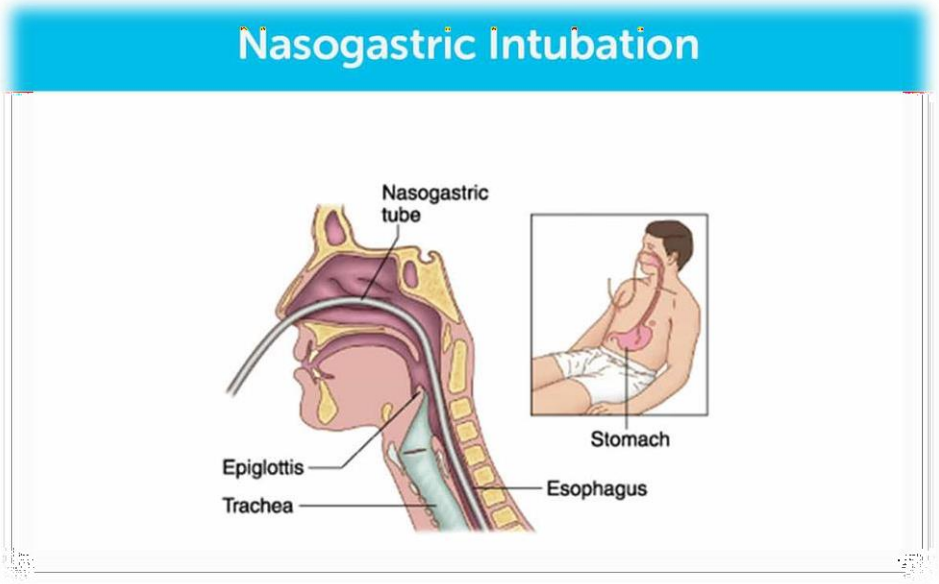
1. Trauma settings
2. Assessment of GI

In trauma settings, **NG tubes** can be used to aidintheprevention of vomiting and aspiration, as well as for assessment of GI bleeding.

LEARNING OBJECTIVES:

At the end of this session students will be able to:

1. EnlistIndications and Contraindications of passing NG tube.
2. Enumeratethepre-requisites of passing NG tube.
3. Perform steps of passing NG tube.



Nasogastric (NG) Tube Insertion

✓ Indications for Nasogastric Tube (NGT) Insertion

◆ Diagnostic Purposes

☒ Gastric content aspiration for analysis (e.g., GI bleeding, poisoning)

☒ Confirmation of upper GI hemorrhage (e.g., hematemesis, melena)

☒ Administration of contrast for imaging studies

◆ Therapeutic Purposes

☒ Gastric decompression (e.g., bowel obstruction, ileus, paralytic ileus)

☒ Enteral feeding (e.g., patients with swallowing difficulties, stroke, coma)

☒ Gastric lavage (e.g., drug overdose, toxic ingestion)

☒ Prevention of aspiration pneumonia in unconscious or ventilated patients

⊘ Contraindications for NG Tube Insertion

⊘ Absolute Contraindications:
Severe facial or skull fractures (risk of intracranial placement)
Recent nasal or oesophageal surgery
Oesophageal varices or severe esophagitis (risk of rupture/bleeding)
Coagulopathy (risk of bleeding)

⊘ Relative Contraindications:
Severe GERD or oesophageal stricture
Uncontrolled vomiting
Recent gastric or oesophageal surgery

✓ Checklist for NG Tube Insertion

1. Patient Preparation

☐Verify patient identity and confirm procedure indication

☐Obtain informed consent (if patient is conscious and capable)

☐Assess for contraindications (nasal deformities, trauma, coagulopathy)

☐Explain the procedure to the patient

☐Ensure the patient is in a semi-Fowler's position (head elevated 45–90°)

☐Provide a cup of water (if allowed) to assist swallowing during insertion

2. Equipment Preparation

☐Nasogastric tube (appropriate size)
Adults: 12-18 Fr
Children: 6-14 Fr

☐Lubricant (water-soluble, not petroleum-based)

☐Syringe (50 mL, for aspiration and flushing)

☐Glass of water with a straw (if patient is conscious and cooperative)

☐pH indicator strips (for confirmation)

☐Stethoscope (to check air insufflation in the stomach)

☐Adhesive tape or tube fixation device

☐Gloves and protective apron

☐Emesis basin and suction apparatus (in case of complications)

✅ Procedure for NG Tube Insertion

Step 1: Preparation
Wash hands and wear gloves
Select the appropriate tube size based on patient needs
Measure tube length
Tip of nose → Earlobe → Xiphoid process
Mark the measured length with tape

Step 2: Insertion
Lubricate the tube tip (water-soluble lubricant)
Gently insert the tube into the nostril (direct tube backward, not upward)
Advance slowly while asking the patient to swallow water (if conscious)
Continue insertion until the marked length is reached
Check for any signs of distress (gagging, coughing, cyanosis)
Temporarily secure the tube with tape on the nose

Step 3: Confirm Correct Placement
☒ Aspirate gastric contents and check pH (<5.5 suggests gastric placement)
☒ Auscultate the stomach while injecting 10–20 mL of air (listen for a "whooshing" sound)
☒ Confirm with a chest X-ray (Gold standard for confirmation)

✅ Confirming Correct NG Tube Placement

Primary Methods (Bedside)
✅ pH Testing of Aspirated Fluid
pH ≤5.5 → Likely in stomach
pH >6 → Suspect placement in lungs, esophagus, or intestines

✅ Auscultation Method (Insufflation Test)
Inject 10–20 mL of air while auscultating over the stomach
A "whooshing" sound suggests gastric placement (not always reliable)
Definitive Confirmation
✅ Chest X-ray (Gold Standard)
Confirms placement when tip is below the diaphragm, in the stomach
🚨 DO NOT use auscultation alone for confirmation due to risk of misplacement into the lungs! 🚨

✅ Post-Insertion Care
☐Secure the tube properly using tape or fixation device
☐Document procedure details (tube size, nostril used, confirmation method)
☐Monitor for complications (aspiration, tube displacement, nasal irritation)
☐Flush with 30–50 mL of water to maintain patency (if needed for feeding)
☐Check placement before each use (aspiration pH test or X-ray if necessary)

Complication Management

Complication	Cause	Management
Aspiration Pneumonia	Tube misplacement in airway	Immediately remove tube, provide oxygen, call for assistance
Epistaxis (Nosebleed)	Trauma to nasal mucosa	Apply pressure, use alternative nostril if needed
Gastric perforation	Forceful insertion	Stop procedure, monitor, seek surgical consult

Complication	Cause	Management
Tube Displacement	Patient movement, improper securing	Reconfirm position before each use

INJECTIONS

TASK:

Demonstrate; How will you inject a patient

- Intra-muscularly
- Intra-venously
- Intradermaly
- Subcutaneously

Intramuscularinjection:

Rationale:
Itisoneofthecommonestwaysofadministeringmedicationsparenterally.

LearningObjectives

- Afterthe sessionthe studentshouldbe ableto :
- Demonstrateandperformtheprocedureproficiently.

VENIPUNCTURE

Rationale:

Venipunctureistheprocess ofobtainingintravenous accessforthe purposeofintravenoustherapy and obtaining a sample of venous blood. Because of its importance and potentialhazardsfor thept. everydoctor should be proficient in this basic procedure.

LearningObjective

Attheend ofthe sessionthestudent shouldbe ableto:

- Enlisttheequipmentneededfortheprocedure.
- Demonstratetheskillproficiently.

SUBCUTANEOUSINJECTION

Rationale:

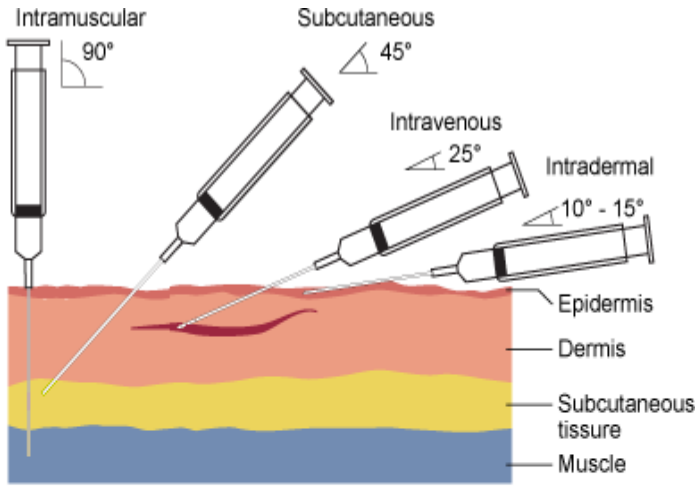
Therearefewer bloodvessels inthe fattylayer ofconnectivetissuejustbeneath theskin thanthemuscle tissue. Having fewer blood vessels means that medication injected subcutaneously isabsorbed more slowly. This makes it an ideal way to administer medications that the body mustuseslowlyover time, such as insulin, heparin etc.

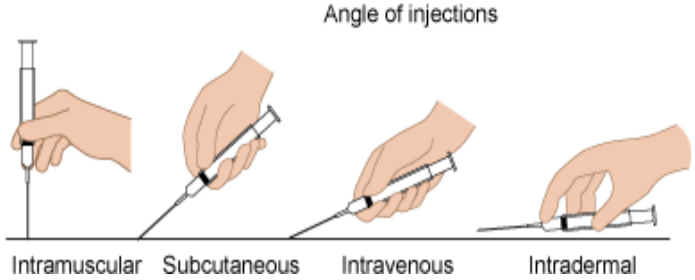
LEARNINGOBJECTIVES:

Atthe endofthis sessionstudents willbe able to:

1. Enumeratelistofdrugs giventhroughthisroute.
2. Enlistadvantagesanddisadvantagesofsubcutaneousinjections
3. Describecomplicationsofinjectingsubcutaneously
4. Demonstratethe asepticteChniqueofinjectingsubcutaneously.

CORRECTANGELSOFINJECTINGDIFFERENTINJECTIONS





Routes of Parenteral Drug Administration

Parenteral administration refers to drug delivery bypassing the gastrointestinal tract, typically via injection or infusion.

A. Intravenous (IV) Route

✓ Common Sites: Cephalic vein, Basilic vein, Median cubital vein

✓ Advantages:

Rapid onset of action
100% bioavailability
Can administer large volumes and continuous infusions

✓ Disadvantages:
Risk of infections (phlebitis, sepsis)
Requires trained personnel

B. Intramuscular (IM) Route

✓ **Common Sites:** Deltoid, Vastus lateralis, Gluteus medius

✓ **Advantages:**

Sustained drug absorption
Suitable for depot formulations (e.g., vaccines, antibiotics)

✓ **Disadvantages:**
Pain at injection site
Risk of nerve or blood vessel injury

C. Subcutaneous (SC) Route

✓ **Common Sites**: Upper arm, Abdomen, Thigh

✓ **Advantages:**
Slow and steady drug release
Can be self-administered (e.g., insulin, heparin)

✓ **Disadvantages**:
Limited drug volume (~1–2 mL)
Slower onset than IV/IM
D. Intradermal (ID) Route

✓ **Common Sites**: Forearm (Mantoux test), Upper chest

✓ **Advantages:**

Used for diagnostic and allergy tests
Requires a small amount of drug

✓ **Disadvantages**:
Painful and technically challenging
Not for systemic drug delivery

E. Intraosseous (IO) Route (Used in emergencies when IV access is difficult)

✓ **Common Sites**: Tibia, Femur, Sternum

✓ **Advantages:**

Rapid drug absorption similar to IV
Life-saving in resuscitation (pediatrics, trauma)

✓ **Disadvantages:**
Risk of bone infection (osteomyelitis)
Temporary measure (~24 hours max)

F. Intrathecal (IT) Route (Direct injection into cerebrospinal fluid - CSF)

✓ **Common Sites:** Lumbar region (L3-L4 or L4-L5 space)
✓ **Advantages:**
Used for anesthesia (spinal block), chemotherapy, or antibiotics in CNS infections

✓ **Disadvantages**:
Highly invasive, risk of meningitis
Requires expert administration

2. Indications for Parenteral Drug Administration

✓ When the oral route is not feasible (NPO patients, unconscious, vomiting)
✓ Rapid drug action is required (Emergencies, anaphylaxis, cardiac arrest)
✓ Long-acting depot formulations needed (Psychiatric medications, hormonal therapy)
✓ Poor GI absorption (Biologics, monoclonal antibodies)
✓ Local administration needed (Anesthesia, vaccines, diagnostic tests)

3. Contraindications

a. Absolute Contraindications:
Known allergy or hypersensitivity to the drug
Infected or inflamed injection site
Severe coagulopathy (for IM/SC/IT routes)
Intraosseous route in patients with bone infections or fractures at the site

b. Relative Contraindications:
Poor peripheral circulation (IV access may be difficult)
Neurological disorders (for IT route)
Bleeding disorders (risk with IM injections)

4. Checklist for Parenteral Drug Administration

✓ **Pre-Procedure Preparation**

☐Check patient's identity and allergy history

☐Confirm the drug name, dose, route, and expiration date

☐Obtain informed consent (if required, e.g., for spinal injections)

☐Perform hand hygiene and wear gloves

☐Prepare the necessary equipment:
Sterile syringe and needle (appropriate gauge for route)
Antiseptic swabs (alcohol/chlorhexidine)
Sharps disposal container

✓ **Pre-Procedure Preparation**

1. Patient Preparation

☐Verify Patient Identity (Check name, ID, and confirm procedure)

☐Explain the procedure to the patient (Obtain verbal consent)

☐Check for allergies (e.g., latex, antiseptics, adhesives)

☐Assess the vein (Choose a suitable vein, typically dorsal hand, cephalic, basilic, or median cubital vein)

2. Equipment Preparation

☐Gather the necessary supplies:

☐IV cannula (appropriate size based on patient needs)

☐Tourniquet

☐Alcohol swab/Chlorhexidine prep

☐Sterile gloves (if required)

☐Gauze pads & plaster/tape

☐IV extension set or IV tubing

☐Flush syringe with 0.9% normal saline

☐Sharps disposal container

☐Select appropriate IV cannula size:

GAUGE (G)	COLOR	FLOW RATE(ml/min)	INDICATIONS
14G	Orange	240	Trauma, massive transfusion
16G	Grey	180	Trauma, massive transfusion
18G	Green	90	Blood transfusion , surgery
20G	Pink	60	Routine Iv fluids, medications
22G	Blue	36	Pediatric, elderly fragile veins
24G	yellow	20	Neonates , small veins

✓ Procedure

3. Cannulation Process

☐ Position the patient comfortably with arm extended

☐ Apply a tourniquet 5–10 cm above the selected site

☐ Clean the site with alcohol/chlorhexidine (allow to dry)

☐ Anchor the vein with non-dominant hand

☐ Insert the IV cannula at a 15-30° angle, bevel up

☐Look for flashback of blood in the chamber

☐Advance the cannula while withdrawing the needle slightly

☐Release the tourniquet once the cannula is fully inserted

☐Secure the cannula with tape or dressing

☐Connect IV tubing/extension set and flush with normal saline

✓ Post-Procedure Care

☐Ensure IV flow is patent (check for swelling, leakage, or resistance)

☐Dispose of sharps safely in sharps container

☐Monitor for complications (Infiltration, phlebitis, hematoma)

☐Label the IV site with date, time, and gauge size

☐Document the procedure in the patient's medical record

Checklist for Intramuscular (IM) Injection

IM injections are commonly used for vaccines, antibiotics, and other medications that require deep tissue absorption. Following a structured checklist ensures safety, accuracy, and minimal complications.

✓ Pre-Procedure Preparation

1. Patient Preparation

☐Verify patient identity (Check name, ID, and confirm prescription)

☐Explain the procedure to the patient (Obtain consent)

☐Check for allergies (Medication, latex, antiseptics)

☐Assess contraindications (Bleeding disorders, muscle atrophy, infection at injection site)

☐Ensure the patient is in a comfortable position

2. Equipment Preparation

☐Gather necessary supplies:

☐Sterile syringe (appropriate size, typically 1–5 mL)

☐Correct IM needle (typically 21-23G, 1-1.5 inch long)

☐Prescribed medication vial/ampule

☐Alcohol swabs (for skin disinfection)

☐Sterile gloves (if required)

☐Cotton ball/gauze pad

☐Adhesive bandage (if needed)

☐Sharps disposal container

☐Select appropriate needle size and injection site:

Gauge (G)	Needle Length	Injection Site	Indications
21-23G	1–1.5 inches	Deltoid	Vaccines, small volume meds (≤2 mL)
21-23G	1.5 inches	Ventrogluteal	Preferred for large volumes, non-irritating me
21-23G	1–1.5 inches	Vastus lateralis	Used in infants, toddlers, adults
21-23G	1.5 inches	Dorsogluteal (not recommended)	Formerly used but risk of sciatic nerve injury

✓ Procedure

3. IM Injection Process

☐Perform hand hygiene and wear gloves

☐Draw the correct medication dose into the syringe

☐Remove air bubbles by tapping the syringe and expelling air

☐Identify the correct IM injection site

☐Clean the injection site with an alcohol swab (allow to dry)

☐Stretch the skin taut using non-dominant hand

☐**Insert the needle at a 90-degree angle into the muscle

☐Aspirate (optional for non-vaccine injections)

If blood appears, withdraw the needle and restart with a new syringe

☐Inject the medication slowly and steadily

☐Withdraw the needle quickly and apply a gauze pad with gentle pressure

☐Dispose of the needle in a sharps container immediately

✅ **Post-Procedure Care**

☐Observe for immediate reactions (e.g., allergy, syncope)

☐Apply an adhesive bandage if needed

☐Document the injection (Date, time, site, dose, medication name)

☐Educate the patient on possible side effects (pain, swelling, redness, mild fever)

☐Advise on aftercare (avoid massaging the site, monitor for adverse reactions)

MALE&FEMALECATHETERIZATION

👉TASK:

Demonstratesterile&differentmethodsofmale&femalecatheterization.

RATIONALE:

Urinary elimination is a basic human function that can be compromised by illness,surgery, and other conditions. Urinary catheterization may be used to support urinaryeliminationin patients who areunabletovoid naturally.

LEARNINGOBJECTIVES:

Atthe endofthis sessionstudents willbe able to:

1. Enlistdifferenttypesofcatheterization
2. Identifydifferenttypes ofcatheters
3. Discussindicationsandcontraindicationsofcatheterization
4. Describecomplicationsofurinarycatheterization
5. Demonstratethestepsofmaleandfemalecatheterizationseparately.


STOP
TIME OUT

Urinary Catheterization

1. Indications for Urinary Catheterization
Urinary catheterization is performed for diagnostic and therapeutic purposes.

A. Diagnostic Indications
Measurement of post-void residual urine volume
Collection of sterile urine samples
Monitoring urine output in critically ill patients
Urodynamic studies

B. Therapeutic Indications
Acute urinary retention (e.g., due to BPH, neurogenic bladder)
Chronic urinary retention not manageable by conservative means
Severe hematuria with clot retention (for bladder irrigation)
Patients undergoing major surgery requiring strict urine output monitoring
Postoperative urinary drainage
Management of incontinence when other treatments fail

2. Contraindications for Urinary Catheterization

A. Absolute Contraindications
Urethral injury (e.g., pelvic fracture with blood at the urethral meatus)
Complete urethral obstruction

B. Relative Contraindications
Recent urological surgery (risk of iatrogenic injury)
Severe urethral stricture
Active urinary tract infection (increased risk of sepsis)

3. Procedure for Urinary Catheterization
This procedure must be performed using aseptic technique to minimize the risk of infection.

A. Required Equipment
Sterile gloves
Sterile drapes
Antiseptic solution (e.g., chlorhexidine or povidone-iodine)
Lubricant (preferably lidocaine gel)
Urinary catheter (size determined by patient's age & indication)
10 mL sterile water (for Foley catheter balloon inflation)
Catheter collection bag

B. Step-by-Step Procedure
Prepare the Patient
Explain the procedure to the patient and obtain consent.
Position the patient (supine with legs slightly apart in males; lithotomy or frog-leg position in females).
Ensure privacy and maintain a sterile environment.
Hand Hygiene & Aseptic

Preparation
Wash hands thoroughly and wear sterile gloves.
Clean the genital area with an antiseptic solution (wipe from front to back in females).
Lubrication & Catheter Insertion
Lubricate the catheter tip with sterile lubricating gel.
For males:
Hold the penis at 90° angle, retract the foreskin (if uncircumcised).
Insert the catheter gently until urine flows.
For females:
Spread the labia minora to visualize the urethral meatus.
Insert the catheter until urine is seen in the tube.

Balloon Inflation (for Foley Catheter)
Once urine is seen, advance the catheter a little further.
Inflate the balloon with sterile water as per manufacturer's recommendation (usually 10 mL).
Securing the Catheter
Attach the catheter to the drainage bag.
Secure the catheter to the thigh (to prevent traction).
Post-Procedure Care
Assess for complications (e.g., discomfort, hematuria, infection).
Document the procedure (date, time, type and size of catheter used, urine output, complications).

4. Urinary Catheterization Checklist

✅ Before the Procedure
☐ Verify patient identity and confirm indication
☐ Obtain informed consent
☐ Ensure patient privacy and comfort
☐ Wash hands and wear sterile gloves
☐ Prepare equipment and sterile field
☐ Clean perineal area with antiseptic solution

✅ During the Procedure

☐ Use aseptic technique throughout
☐ Properly insert and secure the catheter
☐ Confirm urine drainage
☐ Inflate the balloon for Foley catheter (if applicable)

✅ After the Procedure
☐ Secure catheter properly to prevent tension
☐ Attach to appropriate urine collection system
☐ Document procedure details
☐ Monitor for signs of complications

Complications to Watch For
❌ Urethral injury or trauma
❌ Infection (UTI)
❌ Catheter blockage
❌Hematuria
❌ Bladder spasms

ENDOTRACHEALINTUBATION

👉TASK:

DemonstrateproperaseptictechniqueofEndotrachealTubeinsertion.

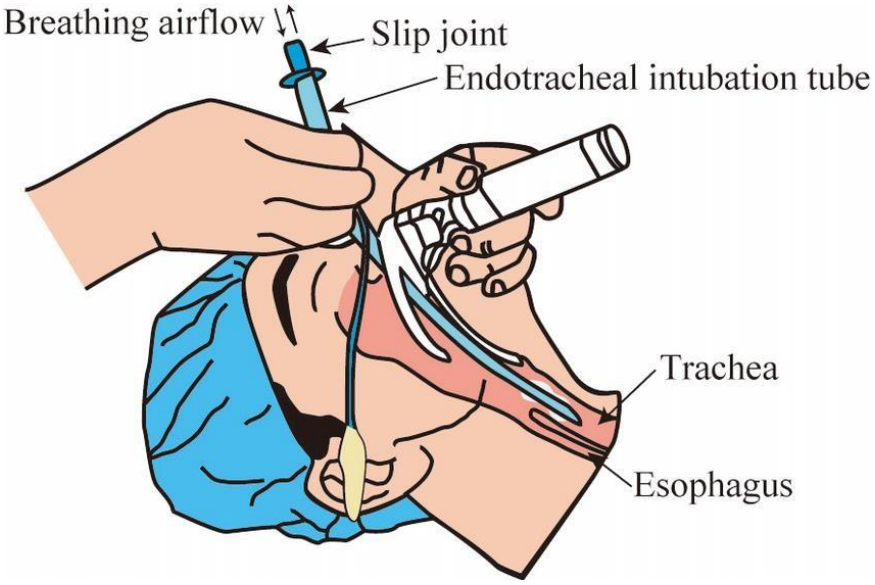
RATIONALE:

Endotracheal intubation (EI) is often an emergency procedure that's performed on peoplewhoareunconscious or whocan'tbreatheon theirown. EImaintainsan openairwayandhelpsprevent suffocation.

LEARNINGOBECTIVES:

Atthe endofthis sessionstudents willbe able to:

1. Knowdifferentsizesofendotrachealtubes
2. IndicationsandcontraindicationsofEndotracheal Intubation
3. DemonstratecorrectstepsofEndotrachealIntubation



Airway Assessment and Management

Introduction
Airway assessment and management are critical skills in medical practice, particularly in emergency medicine, anesthesiology, and critical care.
Ensuring a patent airway is essential for oxygenation and ventilation, preventing life-threatening complications such as hypoxia and respiratory failure.

1. Airway Assessment
A systematic approach to airway assessment helps in identifying potential difficulties before intervention. The following methods are commonly used:

A. Airway Examination
Look for facial trauma, swelling, burns, or anatomical deformities.
Listen for stridor, gurgling, or abnormal breath sounds.
Feel for subcutaneous emphysema or tracheal deviation.

B. Predictors of Difficult Airway
Several bedside assessments help predict a difficult airway:
Mallampati Classification (Class I-IV): Assesses visibility of the oropharyngeal structures.
Thyromental Distance: Shorter than 6 cm suggests a difficult intubation.
Mouth Opening: Less than 3 cm increases difficulty.
Neck Mobility: Limited movement restricts intubation.
Obesity & Facial Trauma: Can obstruct airway visualization.

2. Airway Management
Airway management is performed using a stepwise approach:

A. Basic Airway Management
Positioning – "Sniffing position" aligns oral, pharyngeal, and laryngeal axes.
Airway Opening Maneuvers
Head tilt–chin lift (for non-trauma cases).
Jaw thrust (for suspected cervical spine injury).
Airway Adjuncts
Oropharyngeal Airway (OPA) – Used in unconscious patients without a gag reflex.
Nasopharyngeal Airway (NPA) – Suitable for semi-conscious patients.

B. Advanced Airway Management
Bag-Valve-Mask (BVM) Ventilation – Provides oxygenation when spontaneous breathing is inadequate.
Endotracheal Intubation (ETT)
Gold standard for securing the airway.
Requires laryngoscopy and correct tube placement confirmation (capnography, auscultation, chest rise).
Supraglottic Airway Devices (Laryngeal Mask Airway - LMA)
Used when intubation is not feasible.
Surgical Airway (Cricothyroidotomy or Tracheostomy)
Emergency procedures for airway obstruction.

3. Special Situations
Airway Burns & Inhalation Injury – Early intubation to prevent airway swelling.
Foreign Body Aspiration – Heimlich maneuver or rigid bronchoscopy.
Anaphylaxis – Epinephrine, steroids, and possible airway intervention.
Mallampati Score for Airway Assessment
The Mallampati Classification is a simple bedside assessment used to predict the ease of endotracheal intubation. It evaluates the visibility of oropharyngeal structures when the patient opens their mouth fully and sticks out their tongue.

Procedure for Assessment
Have the patient sit upright, open their mouth as wide as possible, and stick out their tongue without phonation.
Observe the visibility of structures in the oropharynx.
Assign a Mallampati Class (I-IV) based on the structures seen.
Mallampati Classification

Class	Visible structures	Prediction of difficult intubation
Class I	Entire soft palate, fauces, uvula, and tonsillar pillars	Low difficulty
Class II	Soft palate, fauces, and part of the uvula	Mild difficulty
Class III	Soft palate and base of the uvula only	Moderate difficulty
Class IV	Soft palate is not visible (only the hard palate)	High difficulty, potential for a difficult airway

Clinical Significance

Classes I & II: Typically easy intubation.
Class III: May require airway adjuncts or special techniques.
Class IV: High risk for difficult intubation, alternative airway management strategies should bAirwayManeuvers for Airway Management
Proper airway maneuvers are essential to maintain airway patency and facilitate oxygenation, particularly in unconscious or compromised patients. Below are the key airway maneuvers used in clinical practice:

1. Basic Airway Maneuvers
These are non-invasive techniques used to open the airway in unconscious or semi-conscious patients.

A. Head Tilt–Chin Lift Maneuver (Used in non-trauma patients)
✓ Indications: Patients with airway obstruction due to tongue occlusion in unconscious states.
✓ Steps:
Place one hand on the patient's forehead.
Apply gentle backward pressure to tilt the head backward.
Use the fingers of the other hand to lift the chin forward without closing the mouth.

✓ Contraindication: Suspected cervical spine injury (as it may cause spinal cord damage).

B. Jaw Thrust Maneuver (Preferred in trauma patients with suspected cervical spine injury)
✓ Indications: Patients with potential spinal injury where head tilt is contraindicated
✓ Steps:
Place fingers behind the angle of the mandible (jaw).
Push the mandible forward without moving the head or neck.
Slightly open the mouth to ensure airway patency.e considered.

Checklist for Endotracheal Tube (ETT) Insertion

✓ Pre-Procedure Preparation

☐ Assess the Airway (Mallampati, thyromental distance, mouth opening, neck mobility)

☐ Confirm Indications for Intubation (Airway protection, respiratory failure, anesthesia)

☐ Gather Equipment:

☐ Endotracheal tube (ETT) (Confirm correct size: Adult: 7.0–8.5 mm; Pediatric: Age/4 + 4)

☐ Laryngoscope with appropriate blade (Macintosh/Miller)

☐ Bag-valve-mask (BVM) with oxygen source

☐ Suction (Yankauer catheter)

☐ Stylet (for rigidity and ease of insertion)

☐ 10 ml syringe (to inflate the cuff)

☐ Capnography or CO_2 detector

☐ Stethoscope (for breath sound verification)

☐ Tape or ETT securing device

☐ Alternative airway devices (LMA, Bougie) in case of failure

✓ Patient Preparation

☐ Position patient in the "sniffing position" (unless cervical spine injury)

☐ Pre-oxygenate with 100% O_2 for at least 3-5 minutes

☐ Administer premedications (if required) (e.g., sedation, analgesia, neuromuscular blockade)

✓ ETT Insertion Procedure

☐ Hold the laryngoscope with the left hand

☐ Insert the blade and visualize the vocal cords

☐ Advance the ETT through the vocal cords (Confirm depth: ~21 cm for women, ~23 cm for men)

☐ Inflate the cuff with 5–10 ml of air

☐ Withdraw the stylet carefully

✓ Post-Insertion Verification

☐ Confirm correct placement

☐ Observe bilateral chest rise

☐ Auscultate breath sounds in both lungs & absent over the stomach

☐ End-tidal CO_2 confirmation (Capnography)

☐ Secure the tube with tape or tube holder

☐ Document the depth at the lips (cm mark on ETT)

☐ Obtain a chest X-ray to confirm tube placement (tip ~2–3 cm above the carina)

✓ Post-Intubation Care

☐ Adjust ventilator settings if needed

☐ Monitor oxygenation, hemodynamics, and sedation needs

☐ Reassess tube position regularly

Checklist for Supraglottic Airway Device (SAD) Insertion

✓ Pre-Procedure Preparation

☐ Assess the Airway (Mallampati score, neck mobility, risk of aspiration)

☐ Confirm Indications for Supraglottic Airway Device (SAD) Use

Alternative to endotracheal intubation
Airway management in difficult intubation scenarios
Rescue airway in “cannot intubate, cannot ventilate” situations

☐ Gather Equipment:

☐ Supraglottic airway device (e.g., Laryngeal Mask Airway - LMA, i-gel, Combitube)

☐ Lubricant (water-based)

☐ Bag-valve-mask (BVM) with oxygen source

☐ Suction (Yankauer catheter)

☐ 10–30 ml syringe (for inflatable cuffed LMAs)

☐ Capnography or CO_2 detector

☐ Stethoscope (for breath sound verification)

☐ Tape or securing device

✅ Patient Preparation

☐ Position patient in a neutral or slight sniffing position (unless contraindicated)

☐ Pre-oxygenate with 100% O_2 for at least 3-5 minutes

☐ Administer appropriate sedation and muscle relaxation (if needed)

✅ SAD Insertion Procedure

☐ Lubricate the SAD to reduce friction

☐ Hold the device correctly (i-gel: convex surface up, LMA: folded back on itself)

☐ Insert the SAD following the natural airway curve until resistance is felt

☐ For cuffed devices (e.g., LMA), inflate the cuff with the recommended volume

☐ Confirm placement:

☐ Observe chest rise

☐ Auscultate bilateral breath sounds

☐ Ensure no air leaks (listen over the mouth and neck)

☐ Confirm CO_2 detection with capnography

✅ Post-Insertion Verification & Care

☐ Secure the SAD with tape or a securing strap

☐ Attach the BVM or ventilator and monitor tidal volumes

☐ Reassess patient oxygenation and ventilation continuously

☐ Monitor for complications:

☐ Airway obstruction

☐ Gastric insufflation (distended stomach)

☐ Aspiration (high-risk Parenteral Drug Administration: Routes, Indications, Contraindications, and Checklist

TASK:

BREASTEXAMINATION

Demonstrateproperstepsofbreastexamination.RATIONALE:

Despite the advances in breast imaging, there are clear indications for the need of clinical breastexamination as part of breast cancer screening for all women. The article reviews the techniqueforclinicalbreastexaminationandassessment ofitsresults.Themain goaloftheclinicalbreastexamination is to differentiate normal physiologic nodularity from a discrete breast mass. If adiscretemass isidentified, evaluation ismandatoryinall cases toexcludebreastcancer.

LEARNINGOBJECTIVES:

Atthe end ofthis session studentswill beable to:

1. Discustheimportanceof breastexamination.
2. Performbreastexamination.

DIGITAL RECTAL EXAMINATION

(Prostateexamination)

Task:

Performdigitalrectalexaminationon mannequin.

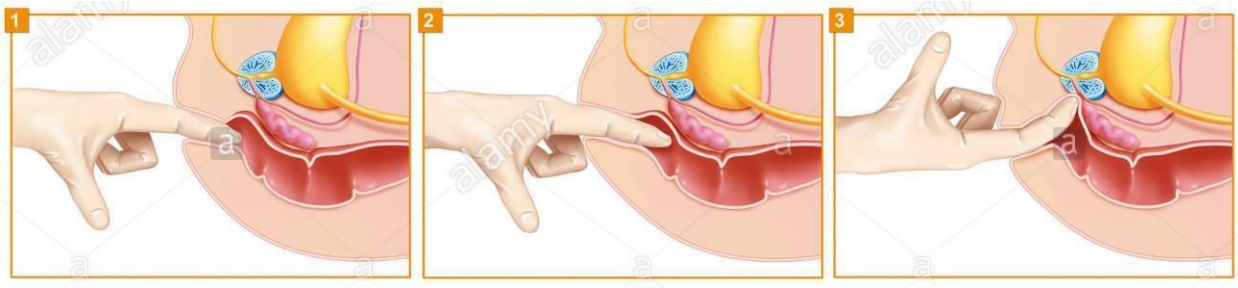
RATIONALE:

Adigitalrectal examination(DRE)is asimple proceduredoctorsusetoexaminethelower rectum and other internal organs. A DRE is done for a number of reasons. It's a quick, easy wayto check the health of a man's prostate gland. It can detect conditions like an enlarged prostate(benignprostatichyperplasia)and prostate cancer.

LEARNINGOBJECTIVES:

Atthe endofthis sessionstudents willbe able to:

1. Enlisttheindications&contraindicationsofdigitalrectalexamination.
2. DemonstratepropermethodofDRE.



Prostate Examination

1. Introduction
Prostate examination is a critical part of the male genitourinary system assessment, primarily performed via Digital Rectal Examination (DRE) to evaluate the prostate gland's size, consistency, tenderness, and presence of nodules or masses.

2. Indications for Prostate Examination
A prostate exam is indicated in the following cases:
A. Diagnostic Indications
Symptoms of benign prostatic hyperplasia (BPH) (e.g., urinary hesitancy, weak stream, nocturia)
Suspected prostate cancer (elevated PSA, weight loss, hematuria)
Symptoms of prostatitis (pain, fever, dysuria)
Lower urinary tract symptoms (LUTS)
Unexplained pelvic pain or perineal discomfort
B. Screening Indications
Men ≥ 50 years old (or ≥ 45 years if high-risk, e.g., family history of prostate cancer)
Elevated PSA levels in blood tests

3. Contraindications for Prostate Examination
Acute prostatitis (risk of bacteremia)
Severe anorectal pain (e.g., thrombosed hemorrhoids, anal fissures)

4. Procedure for Digital Rectal Examination (DRE)
A. Required Equipment
Sterile gloves
Lubricant (e.g., lidocaine gel)
Gauze or tissue paper
Adequate lighting
B. Patient Preparation
Explain the Procedure
Inform the patient about the necessity of the exam.
Obtain verbal consent.
Positioning the Patient
Left lateral (Sims' position): Patient lies on their left side with knees flexed.
Standing position: Patient stands with feet apart, bending forward over the examination table.
C. Step-by-Step Prostate Examination
Hand Hygiene & Gloving
Wash hands and wear sterile gloves.
Inspection of the Perianal Region
Check for lesions, fissures, hemorrhoids, or infections.
Lubrication & Finger Insertion
Apply lubricant to the index finger.
Ask the patient to take deep breaths and relax.
Gently insert the finger into the anal canal with a slight downward angle.
Palpation of the Prostate
Identify the prostate gland anteriorly (about 4 cm inside).
Assess the size, shape, consistency, and symmetry.

Findings	Interpretation
Normal	Firm, smooth, rubbery, non-tender, ~2-3 cm size
Enlarged, firm	BPH
Hard, irregular, nodular	Prostate cancer
Boggy, tender	Prostatitis
Fluctuant	Prostatic abscess

Assess Rectal Tone & Remove Finger
Evaluate anal sphincter tone (normal, weak, hypertonic).
Gently remove the finger and wipe excess lubricant.
Post-Examination Steps
Dispose of gloves properly.
Offer the patient tissues for cleaning.
Document findings.

5. Prostate Examination Checklist

✓ Before the Examination

☐ Obtain patient consent and explain the procedure.

☐ Ensure privacy.

☐ Position the patient correctly.

☐ Perform hand hygiene and wear gloves.

✓ During the Examination

☐ Inspect perianal area for abnormalities.

☐ Lubricate the index finger.

☐ Insert the finger gently and assess the prostate.

☐ Note size, consistency, tenderness, and nodularity.

☐ Evaluate anal sphincter tone.

✓ After the Examination

☐ Remove finger and clean excess lubricant.

☐ Dispose of gloves and wash hands.

☐ Document findings and inform the patient.

6. Clinical Correlations

Condition	Findings on DRE	Additional Investigations
Benign Prostatic Hyperplasia (BPH)	Enlarged, firm, smooth	PSA, uroflowmetry, ultrasound
Prostate Cancer	Hard, nodular, asymmetric	PSA, biopsy, MRI
Acute Prostatitis	Boggy, very tender	Urine culture, CBC, PSA
Prostatic Abscess	Fluctuant, tender	Transrectal ultrasound

Breast Examination Guide for MBBS Students

1. Introduction

Breast examination is an essential clinical skill for detecting breast abnormalities, including breast cancer, fibroadenomas, cysts, and infections. It includes inspection and palpation and is performed as part of a general physical exam or when a patient presents with breast-related symptoms.

2. Indications for Breast Examination

A. Screening Indications

Routine clinical breast exam (CBE) for women >40 years (or earlier if high-risk)

Family history of breast cancer (BRCA mutations, first-degree relatives)

Annual screening as part of well-woman checkups

B. Diagnostic Indications

Breast lump (self-reported or incidentally found)

Breast pain (mastalgia)

Nipple discharge (bloody, serous, purulent)

Skin changes (dimpling, peaud'orange, ulcers)

Inflammatory signs (redness, warmth, swelling, tenderness)

3. Contraindications for Breast Examination
No absolute contraindications, but care should be taken in patients with severe pain, open wounds, or post-surgical breasts.

4. Procedure for Breast Examination

A. Required Equipment
Well-lit examination room
Examination gown for patient privacy
Clean hands and gloves (if needed for nipple discharge examination)

B. Step-by-Step Breast Examination
The examination consists of two main components: Inspection and Palpation.

1. Inspection (With Patient Seated)
Ask the patient to undress to the waist and sit comfortably. Examine both breasts symmetrically in four positions:
✓ Neutral position (arms at sides) – Observe for asymmetry, size differences, skin changes.
✓ Arms raised overhead – Helps assess skin retraction or dimpling.
✓ Hands pressed on hips & leaning forward – Tightens pectoral muscles to highlight any hidden masses.
✓ Supine position (for better palpation of deeper structures).
🔍 Look for:
Skin changes (redness, thickening, peaud'orange appearance)
Nipple changes (inversion, discharge, retraction, ulcers)
Visible masses or asymmetry

2. Palpation (With Patient Supine & Arm Raised Behind Head)
Palpation is best done in the lying position as it spreads out breast tissue for better evaluation.

A. Technique for Breast Palpation
Use the pads of three fingers and apply light, medium, and deep pressure in a systematic pattern:
◉ Circular motion – Moving from outer breast towards nipple.
◉ Radial (clockwise) pattern – From nipple outward like spokes of a wheel.
◉ Vertical strip method (preferred) – Moving up and down in parallel lines across the breast.

B. Assess for the Following:
✓ Lumps or masses (location, size, shape, mobility, tenderness, consistency)
✓ Nipple discharge (color, consistency, spontaneous or expressed)
✓ Axillary and supraclavicular lymph nodes (palpate for lymphadenopathy)

5. Breast Examination Checklist
✓ Before the Examination
☐ Explain the procedure and obtain consent.
☐ Ensure a private, well-lit setting.
☐ Ask about family history, previous lumps, surgeries, pain, or discharge.
✓ During the Examination
☐ Perform inspection in multiple positions.
☐ Use systematic palpation methods (vertical strip preferred).
☐ Examine both breasts and axillae.
☐ Assess for skin/nipple changes, tenderness, or masses.
✓ After the Examination
☐ Inform the patient of findings.
☐ Document size, shape, mobility, consistency, tenderness of any lump.
☐ Advise further imaging (ultrasound, mammogram) if needed.

6. Common Clinical Findings & Interpretations

FINDING	POSSIBLE CAUSE
Firm, mobile, well-defined lump	Fibroadenoma

Soft, fluctuant, tender lump	Breast cyst
Hard, irregular, fixed mass	Breast cancer
Peau d'orange (dimpled skin)	Inflammatory breast cancer
Red, warm, tender breast	Mastitis/Abscess
Bloody nipple discharge	Breast cancer or papilloma
Milky nipple discharge (galactorrhea)	Prolactinoma, pregnancy, medications

7. Key Learning

Breast cancer presents as a hard, irregular, non-mobile mass with nipple retraction or skin changes.
Fibro-adenomas are smooth, firm, mobile, and common in young women.
Mammograms and ultrasounds are used for further evaluation.
Any suspicious lump must be biopsied.
Mnemonic for Breast Examination (LUMPS)

✓ L – Location (quadrant, distance from nipple)

✓ U – Ulceration or skin changes

✓ M – Mobility (fixed vs mobile)

✓ P – Pain & tenderness

✓ S – Size & shape

Study sources

1. Hutchinson's clinical methods 23rd edition
2. Macleod's clinical examination

4THYEARMBBS

PLEURALTAP/THORACOCENTESIS

👉TASK:

Demonstrate sterile technique to do a pleural

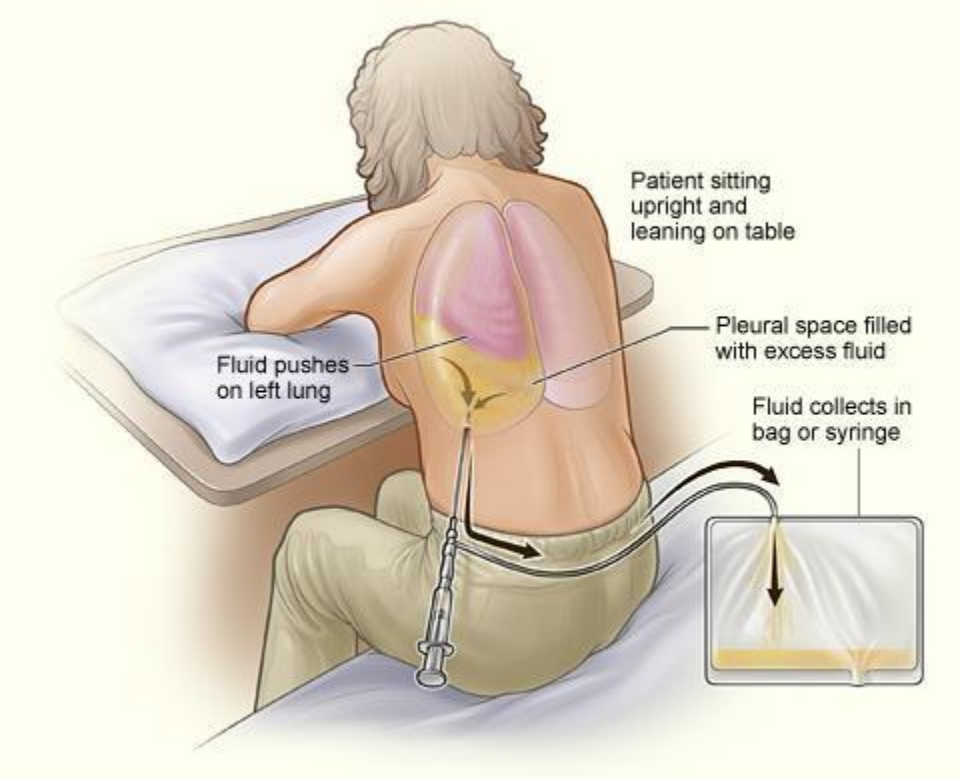
tap.RATIONALE:

Thoracocentesis(fromtheGreek"pricking,puncture")orpleuraltap(fromthe Greekpleuron"side,rib"), isan invasiveproceduretoremovefluidorairfromthe pleural spacefordiagnosticortherapeuticpurposes.Acannula,orhollow needle,iscarefullyintroducedinto the thorax, generally after administration of local anesthesia. The procedure was firstperformedbyMorrill Wymanin 1850 and thendescribed byHenryIngersoll Bowditchin 1852.

LEARNINGOBJECTIVES:

Atthe end ofthis session studentswill be able to:

1. Enlisttheindications&contraindications ofpleural tap.
2. Enumeratethediseasesthatcanbediagnosedonpleuraltap.
3. Performapleuraltap.



NORMAL PELVICEXAMINATION

👉TASK:

How will you carry out a normal pelvic

examination.RATIONALE:

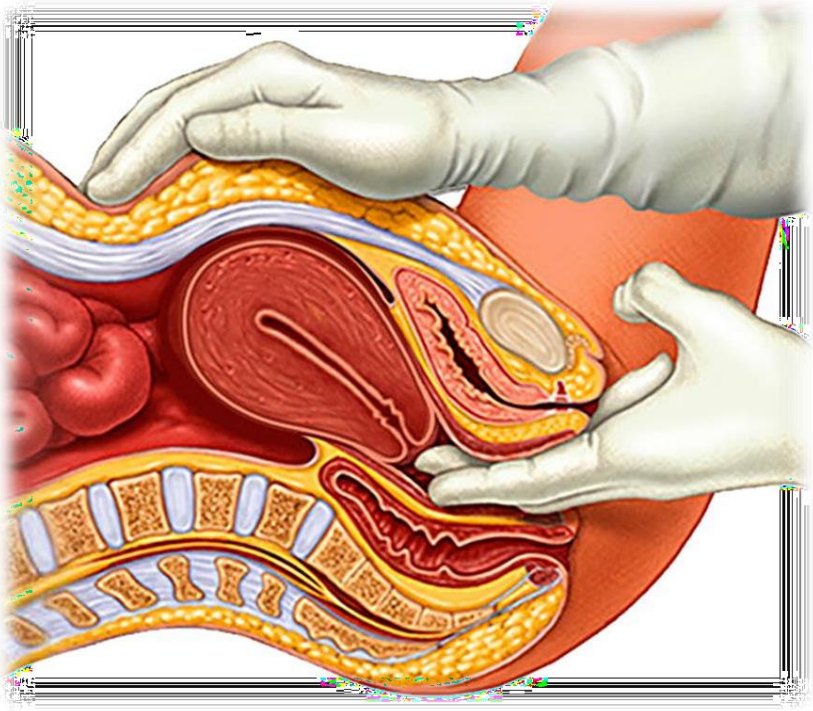
Apelvicexam involves physicallyandvisuallyexaminingthe femalereproductiveandsexualorgans.Itallows adoctor to lookforsigns ofinfectionand illness.Theseexaminations areperformed

- aspartofanannualcheckup
- to check thatreproductiveorgans arehealthyduringpregnancy
- tolook forsigns ofinfections
- todeterminethecauseof pain inthepelvisorlower back

LEARNINGOBJECTIVES:

Atthe endofthis sessionstudents willbe able to:

1. Performstepsofnormalpelvicexamination.



STAGESOFLABOR

TASK:

Demonstrate how will you identify different stages of labor and how willyoumanage finalstage of labor.

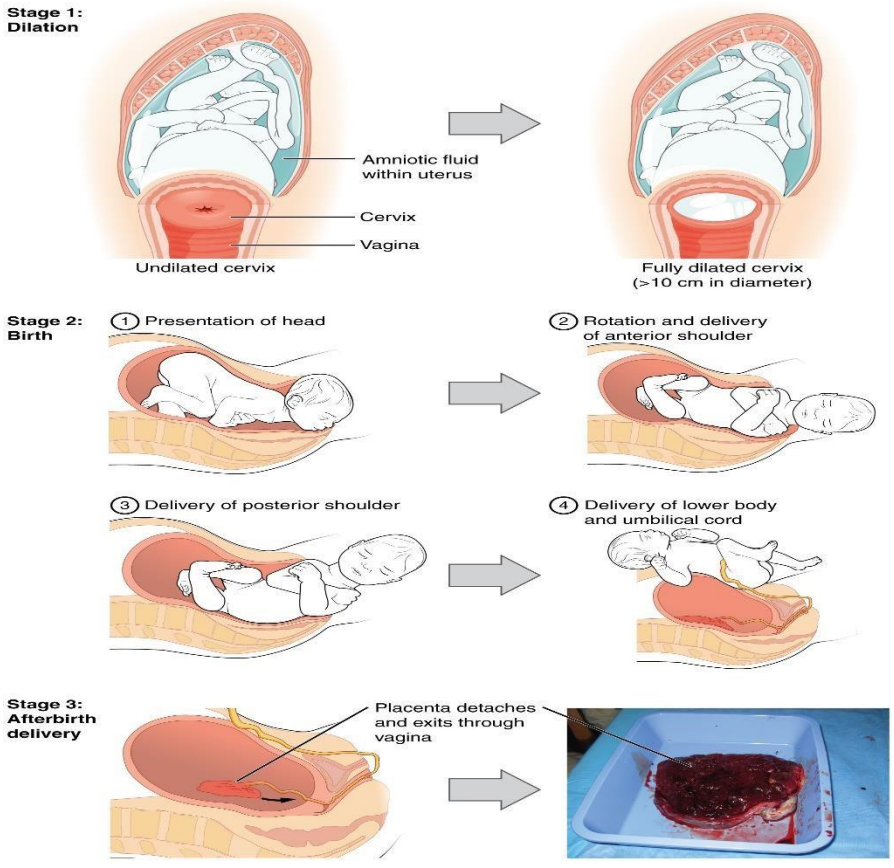
RATIONALE:

The diagnosis of labor onset has been described as one of the most important judgmentsinmaternitycare.Thereiscompellingevidencethatthedurationofbothlatentand activephaselabor areclinicallyimportantand requireconsistent approaches tomeasurement.

LEARNINGOBJECTIVES:

Atthe endofthis sessionstudents willbe able to:

1. Describedifferentphases oflabor.
2. Demonstratethemanagement oflastphaseoflabor.
3. Discussthecomplicationsoflabor.



EPISIOTOMY

👉TASK:

Performepisiotomyonmannequinanddemonstrateproperasepticteчniqueofsuturing episiotomy.

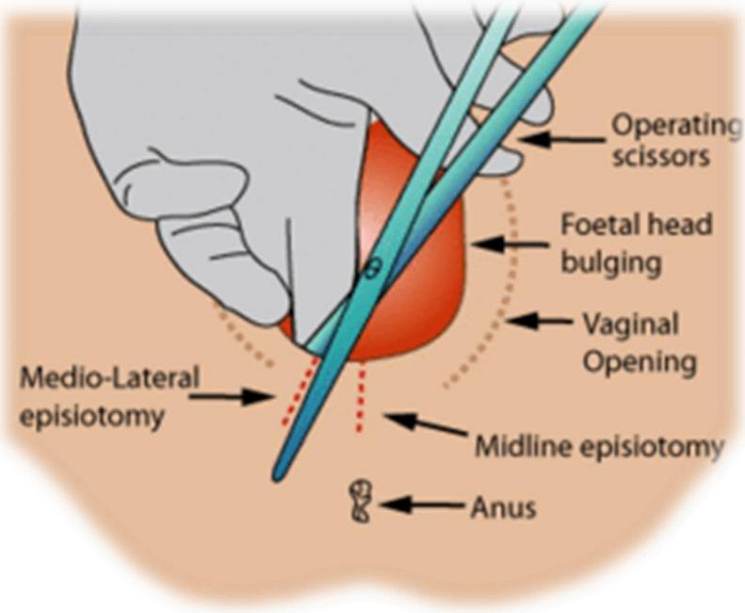
RATIONALE:

Episiotomy, also known as perineotomy, is a surgical incision of the perineum and the posteriorvaginal wall generally done by a midwife or obstetrician. Episiotomy is usually performedduring second stage of labor to quickly enlarge the opening for the baby to pass through & issuturedafter delivery.

LEARNINGOBJECTIVES:

Atthe endofthis sessionstudents willbe able to:

1. Describetheimportanceofepisiotomy.
2. Discussthecomplicationsofepisiotomy.
3. Performepisiotomyandpropersuturingtechnique.



FINAL YEAR MBBS

CARDIACFIRSTRESPONSE

👉TASK:

DemonstrateCFR.

Rationale:

Cardiac first response will help final year students to ensure that those who suffer cardiac arrest in thecommunity are given the best possible chance of survival. Basic aim of this course is to provide studentsthe ability to recognize several life-threatening emergencies, provide Cardiopulmonary Resuscitation -CPR, use an Automated External Defibrillator - AED, and relieve choking in a safe, timely and effectivemanner.

LEARNINGOBJECTIVES:

Atthe endofthiscourse studentswill beable to:

1. Manageapatientofcardiacarrest
2. PerformCPR.
3. DemonstrateSafeoperationofanAutomatedExternalDefibrillator(AED)

ASSESSMENT

ContinuousAssessment(Formative)	:	40%Sum
mativeAssessment	:	60%
Total	:	100%

VIDEOLINKS

1st YEARMBBS:

https://www.youtube.com/watch?v=qahukkDYFbk

2ndYEARMBBS:

https://www.youtube.com/watch?v=ozzZVQQTvo4

3RDYEARMBBS:

NGINTUBATION:

https://www.youtube.com/watch?v=WgfNa7dzSn0

INJECTIONS:

https://www.youtube.com/watch?v=k1jvywxyBt0

URINARYCATHETERIZATION:

https://www.youtube.com/watch?v=V2NApvhoWh4

https://www.youtube.com/watch?v=mJ-Rb3xxVvg

ENDOTRACHEALINTUBATION:

http://www.oxfordmedicaleducation.com/clinical-skills/procedures/endotracheal-tube/

BREASTEXAMINATION:

https://www.youtube.com/watch?v=fUwLRtJN4Aw

DIGITALRECTALEXAMINATION:

https://www.youtube.com/watch?v=pJ55UtP0_nA

4THYEARMBBS:

LUMBARPUNCTURE

https://www.youtube.com/watch?v=YmzDT-LXQPY

PLEURALTAP

https://www.youtube.com/watch?v=ivTyH09BcHg

PELVICEXAMINATION

https://www.youtube.com/watch?v=i5VxSZ9w4EY

STAGESOFLABOUR

https://www.youtube.com/watch?v=ruIa1bC4tsw

EPISIOTOMY

https://www.youtube.com/watch?v=39frZ9lQ4f0

FINALYEARMBBS:

https://www.youtube.com/watch?v=FrsRFX_AgBA

https://www.youtube.com/watch?v=HRvKYa_rfqo

IF YOU DON’T SACRIFICEFORWHAT YOU WANT

WHAT YOU WANTBECOMESSACRIFICED