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# MBBS Practical Notes

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# Pre Anaesthetic History Airway and Risk Review

Practical 01 / Supervised clinical examination

## Aim

Take a focused pre-anaesthetic history, assess airway and physiological status and present a readiness summary.

## Principle

The proposed operation, functional capacity, comorbidities, airway and medicines influence planning. Tests should address a clinical question.

## Materials and Requirements

- Supervised actor or patient, examination equipment and medication list
- Operation request, prior anaesthetic record and case-specific investigation guide

## Procedure

1. Verify the planned procedure and urgency. Ask about previous anaesthesia issues, allergy, functional capacity, comorbidities, smoking and pregnancy possibility where relevant.
2. Confirm the procedure, urgency and baseline activity. Ask about previous difficult airway, reactions, breathing or heart symptoms and any prior anaesthetic record that would help planning.
3. Reconcile medicines and timing, including anticoagulants and diabetes treatment. Record fasting and what the patient understands about the plan.
4. Compare the patient’s actual medication use with the record. Note last relevant doses, fasting intervals and allergy reactions, and flag unclear perioperative instructions for the anaesthesiologist.

Continue with step 5 on the next page.

# Procedure Continued

Pre Anaesthetic History Airway and Risk Review

5. Check vital signs. Examine the airway using mouth opening, dentition, neck movement and other findings in the station checklist. Assess heart and lungs.
6. In the approved position review mouth opening, dentition, neck range and available airway measures. Record observed findings together with heart, lung and vital observations.
7. State which investigations are likely to change management and which findings require anaesthesiologist review before proceeding.
8. Select investigations only where purpose and timing could affect management. List issues that need optimisation, clarification or a documented specialist decision before the procedure.
9. Present an organised summary with procedure, risks, unresolved items and the team responsible.
10. Give a structured summary with procedure, urgency, functional status, medicines, airway findings and outstanding checks. Confirm the supervising team's plan and document it.

## Precautions

- A student presents findings and recommendations under supervision.
- Avoid changing medicines or promising fitness for surgery independently.

# Observations and Interpretation

Pre Anaesthetic History Airway and Risk Review

## Observations and Record

| Item | What to record | What it tells you |
|---|---|---|
| History | Comorbidity, function, fasting, medicines and prior events | Identifies anaesthetic issues |
| Airway and exam | Objective findings and relevant observations | Supports equipment and approach planning |
| Readiness | Tests, unanswered questions and escalation | Defines the next decision |

### Worked Example

A patient for elective surgery reports a prior difficult intubation, limited neck movement and current anticoagulant use. The patient does not know the perioperative medicine plan.

## Result and Interpretation

Request anaesthetic assessment and clarify the anticoagulant plan before proceeding. Document the prior airway history explicitly.

## Viva Questions and Answers

### Why review prior anaesthetic records?

They may document airway difficulty, reactions or successful approaches.

### Why ask about functional capacity?

It adds information about exercise tolerance and perioperative risk.

# Resuscitation Team Adult Child and Newborn Scenarios

Practical 02 / Skills laboratory simulation

## Aim

Demonstrate basic and advanced resuscitation roles in age-specific trainer scenarios.

## Principle

Adult and paediatric cardiac arrest management emphasises immediate high-quality CPR, rapid rhythm assessment and coordinated care. A newborn at delivery follows a distinct ventilation-first algorithm.

## Materials and Requirements

- Adult, child and newborn trainers with current resuscitation algorithms
- Training monitor, defibrillator, airway kit and event record

## Procedure

1. Identify age and clinical context, check response and activate the appropriate team. Assign roles and confirm the scenario's resuscitation algorithm.
2. Confirm age and setting before choosing the algorithm. Assign team roles for compressions, ventilation, monitoring, equipment and recording and check that each person acknowledges their role.
3. Demonstrate adult or child basic life support on the matching trainer. Use feedback for depth, rate and interruptions. For a newborn at delivery demonstrate initial steps and ventilation assessment.
4. On the adult and child trainers rehearse pulse and breathing checks and use compression and ventilation feedback. In the birth scenario, prepare thermal support and start ventilation within one minute for apnoea, gasping or a heart rate persistently below 100/min after initial measures. Check heart rate and chest movement to evaluate the response.

Continue with step 5 on the next page.

# Procedure Continued

Resuscitation Team Adult Child and Newborn Scenarios

5. In the advanced arrest scenario recognise ventricular fibrillation and pulseless ventricular tachycardia as shockable. Recognise asystole and pulseless electrical activity as non-shockable. Confirm pulseless electrical activity by matching electrical activity on the monitor with the absence of a pulse.
6. On the advanced monitor match the tracing with the clinical pulse status. Tell the team whether the scenario is shockable and prepare the appropriate model action without lengthening an unnecessary pause.
7. Rehearse shock safety and the order read-back with current age- and weight-specific charts. Review reversible causes and keep CPR interruptions brief.
8. Rehearse visual safety checks before simulated shocks and resume CPR promptly. Use closed-loop read-back to verify rhythm, age or weight, and model orders from the authorised chart.
9. Record rhythms, actions, timings and reassessment. Give a handover after return of circulation or transfer of team responsibility.
10. Reassess after each simulated cycle and record exact times and response. Give a brief handover including the change in condition, likely contributing cause and planned monitoring.

## Precautions

- Use trainers and the current local resuscitation teaching charts.
- For a newborn at delivery assess ventilation effectiveness before advancing through the neonatal algorithm.

# Observations and Interpretation

Resuscitation Team Adult Child and Newborn Scenarios

## Observations and Record

| Item | What to record | What it tells you |
|---|---|---|
| Context | Age group, trigger and initial findings | Selects the applicable algorithm |
| Team sequence | CPR, ventilation, rhythm and interventions | Measures timing and safety |
| Documentation | Times, response and ongoing plan | Supports continuity and debrief |

### Worked Example

The adult monitor simulator shows ventricular fibrillation. A student prepares the training shock while a partner continues CPR until the team is ready for the appropriate brief pause.

## Result and Interpretation

State that this is a shockable rhythm in a pulseless case. Clear before simulated delivery, resume CPR promptly and follow the current algorithm.

## Viva Questions and Answers

### What is closed-loop communication?

The receiver repeats the order and reports once the task is done.

### What response helps judge ventilation in a newborn at birth?

Chest rise and an improving heart rate.

# Airway Manoeuvres Adjuncts and Oxygen Devices

Practical 03 / Skills laboratory simulation

## Aim

Open the simulated airway, select an airway adjunct and compare oxygen delivery devices.

## Principle

Airway position, airway patency and ventilation are separate observations. Effective oxygen delivery depends on device, fit, flow and patient need.

## Materials and Requirements

- Adult airway trainer, oropharyngeal and nasopharyngeal airway trainers and bag-mask
- Nasal cannula, simple and reservoir masks, Venturi mask and high-flow demonstration

## Procedure

1. Assess responsiveness, breathing and trauma concerns. Call for help when needed and position the trainer appropriately.
2. Check breathing and airway sounds on the trainer, summon help if needed and establish whether the scenario suggests trauma. Verify that suction, oxygen and the bag-mask trainer are ready.
3. Demonstrate head tilt with chin lift in the non-trauma case and the taught jaw-thrust approach when trauma is suspected. Reassess patency.
4. Demonstrate the appropriate position and jaw support and immediately look for changes in air movement and chest rise. Maintain spinal precautions when the scenario calls for them.

Continue with step 5 on the next page.

# Procedure Continued

Airway Manoeuvres Adjuncts and Oxygen Devices

5. Select adjunct type and size using the skills checklist. Identify when an adjunct is inappropriate and demonstrate placement on the approved model.
6. Use the course's sizing landmarks and check the adjunct's contraindications, including relevant reflexes or trauma. Demonstrate the assigned placement on the model and reassess patency.
7. Compare nasal cannula, mask, Venturi, reservoir, high-flow and bag-mask uses. Verify assigned flow and saturation target in the case protocol.
8. Match the supplied device to the clinical aim and verify its fit, source, connections and authorised setting. Compare the device's delivered oxygen with the scenario target and note practical limitations.
9. Reassess oxygenation and ventilation and state whether the team needs further airway support.
10. Record oxygen support, respiratory effort, chest movement and device response as separate findings. Request further team support if ventilation or oxygenation remains inadequate.

## Precautions

- Check contraindications before using adjuncts and practise placement on the trainer.
- Maintain oxygen fire safety and monitor the clinical response.

# Observations and Interpretation

Airway Manoeuvres Adjuncts and Oxygen Devices

## Observations and Record

| Item | What to record | What it tells you |
|---|---|---|
| Airway findings | Position, sounds, chest movement and relevant trauma | Shows patency and likely cause |
| Adjunct and device | Type, size, fit and authorised setting | Documents selection and checks |
| Response | Saturation, effort and ventilation | Shows if escalation is needed |

### Worked Example

A model case has snoring and reduced responsiveness. Jaw support improves patency, but chest rise remains ineffective until a supervised two-person bag-mask seal is established.

## Result and Interpretation

Record the change in patency and ventilation separately. Call for further airway support if adequate ventilation cannot be maintained.

## Viva Questions and Answers

### Does supplemental oxygen alone correct poor ventilation?

Oxygenation and movement of air are distinct. The team must also assess ventilation.

### What is the purpose of a Venturi device?

It provides a specified inspired oxygen concentration when assembled and used correctly.

# Advanced Airway Capnography and Ventilator Review

Practical 04 / Skills laboratory simulation

## Aim

Identify advanced airway devices and interpret trainer capnography and basic ventilator settings.

## Principle

Exhaled carbon dioxide waveform monitoring helps confirm and monitor airway placement. Ventilator settings control or support breaths and require reassessment of patient response.

## Materials and Requirements

- Airway manikin, supraglottic airway and tracheal tube trainers
- Capnography traces, ventilator simulator and monitor

## Procedure

1. Check the airway plan, alternative equipment, oxygen, suction and team roles. Explain the indication for the selected advanced device.
2. Check the planned primary and backup airway equipment, oxygen, suction, monitor and staff roles. On the trainer verify the device type and size before starting.
3. Assist with the simulated placement sequence assigned by the instructor. Demonstrate securing the model device and state the checks required before use.
4. Assist the supervised placement exercise and note assigned position, depth mark and securement. Confirm the airway using the simulator checklist and establish a baseline waveform.

Continue with step 5 on the next page.

# Procedure Continued

Advanced Airway Capnography and Ventilator Review

5. Observe sustained waveform capnography and relate it to chest movement and other findings. If the trace is absent, immediately assess the patient, equipment and device position with the team.
6. Identify a sustained exhaled CO2 waveform and compare its shape and trend with ventilation and patient condition. For trace loss, assess the model, manually supported ventilation if assigned, connections and device position.
7. Identify mode, respiratory rate, inspired oxygen, tidal volume or inspiratory pressure and PEEP in the ventilator exercise. Compare set and measured values.
8. Read the ventilator monitor and compare set and delivered parameters. Record mode, measured volume or pressure, rate, PEEP and inspired oxygen with the supplied observations.
9. Review alarms, oxygenation and ventilation and document the actions and response.
10. Identify the possible reason for the simulated alarm and call for help while maintaining ventilation as directed. Document the response and who will reassess the patient and device.

## Precautions

- Use a manikin and simulated ventilator. Faculty selects all practice settings.
- Prioritise patient ventilation over adjustment of a monitor alarm.

# Observations and Interpretation

Advanced Airway Capnography and Ventilator Review

## Observations and Record

| Item | What to record | What it tells you |
|---|---|---|
| Airway | Device, confirmation and securement | Assesses correct placement and monitoring |
| Ventilator | Mode, rate, oxygen and PEEP | Describes delivered support |
| Tracing and alarms | Waveform changes, pressures and observations | Detects disconnection or other deterioration |

### Worked Example

During trainer transfer a previously sustained waveform disappears and airway pressure drops. The student calls for help, checks ventilation and looks for disconnection or displacement.

## Result and Interpretation

A sudden trace loss requires immediate reassessment of the simulated patient and equipment. Restore effective ventilation with team guidance.

## Viva Questions and Answers

### What does PEEP stand for?

Positive end-expiratory pressure.

### Why continue waveform monitoring after placement?

Later displacement, disconnection or airway changes can occur.

# Recovery Room Monitoring Regional Anaesthesia and Pain

Practical 05 / Clinical or documentation case

## Aim

Complete a recovery room handover and recognise important postoperative changes after general or regional anaesthesia.

## Principle

Airway, breathing, circulation, mental state, pain and procedure-specific observations are reviewed together. Residual anaesthetic and block effects can impair safe recovery.

## Materials and Requirements

- Fictional anaesthetic record and recovery observations
- Pain and sedation scale, spinal and peripheral block models and crash cart checklist

## Procedure

1. Review the type and time of anaesthesia, procedure, analgesia and any complications. Verify airway status, monitoring and location of emergency equipment.
2. Receive the anaesthesia handover and check identity, procedure, airway course, medicines and block details. Review baseline observations and the monitoring or discharge criteria.
3. Assess oxygenation, ventilation and perfusion. Record consciousness, pain and sedation using an appropriate scale. Review nausea, wound and drains.
4. Assess airway, respiratory rate and ventilation as well as saturation. Record perfusion, pain and sedation together and check wound, drains, nausea and orientation as indicated.

Continue with step 5 on the next page.

# Procedure Continued

Recovery Room Monitoring Regional Anaesthesia and Pain

5. On the models identify relevant spinal, epidural and peripheral block sites. Use the case findings to assess expected and unexpected block function.
6. Use the regional model to locate the anatomical sites and review the case's documented block extent. Check expected recovery of motor and sensation and retain safety support for mobilisation.
7. Identify trends needing immediate review, including increasing drowsiness, hypoventilation or a rapidly changing neurological finding.
8. Compare with earlier observations and recognise worsening airway obstruction, sedation, ventilation or neurological findings. Report the timing and recent treatment to the responsible clinician.
9. Present the issue, action and repeat observations. Apply unit criteria to the simulated discharge decision.
10. Give the current status, changes and reassessment in a short handover. Confirm actual fulfilment of discharge criteria and the next destination and monitor checks.

## Precautions

- Check breathing and sedation with analgesia monitoring.
- Regional needle procedures are faculty demonstrations or trainer skills.

# Observations and Interpretation

Recovery Room Monitoring Regional Anaesthesia and Pain

## Observations and Record

| Item | What to record | What it tells you |
|---|---|---|
| Recovery observations | Respiratory rate, saturation, perfusion and alertness | Detects emerging deterioration |
| Pain and block | Scale, motor and sensory recovery | Supports treatment review and mobilisation safety |
| Handover | Procedure, issues, actions and responsible person | Maintains continuity |

### Worked Example

A postoperative patient is increasingly drowsy and breathing slowly after analgesia. Supplemental oxygen is in place and the reported saturation remains high.

## Result and Interpretation

Alert the team and assess ventilation and airway support immediately in the scenario. The oxygen reading alone does not establish effective breathing.

## Viva Questions and Answers

### Why check pain and sedation together?

Pain relief and medicine effects must be balanced with safe alertness and breathing.

### Why document motor recovery before mobilisation?

Residual weakness can create a fall risk.

# Intravenous and Central Access Safety

Practical 06 / Skills laboratory simulation

## Aim

Demonstrate peripheral and central vascular access safety checks on models and review an infusion order.

## Principle

Indication, site, asepsis, verification and subsequent monitoring matter for access safety. Central line placement requires dedicated training and confirmation.

## Materials and Requirements

- IV arm trainer, central line and ultrasound models
- Practice cannulas, aseptic materials, dummy infusion, labels and sharps bin

## Procedure

1. Clarify the indication, intended duration, appropriate route and risks. Confirm identity and allergies.
2. Verify the reason, site and trainer device with the instructor and compare with allergy, site and access restrictions. Prepare a secure workspace and approved sharps containment.
3. Demonstrate sterile preparation and identify anatomy on the peripheral and central access trainers. Use the station’s ultrasound orientation when supplied.
4. Review standard precautions, sterile barriers and key parts, then identify target anatomy and adjacent structures on the access model. Check trainer imaging or landmark instructions.
5. Place and secure the practice peripheral device, confirming model feedback. In the central access scenario demonstrate the checklist steps under faculty direction.

Continue with step 6 on the next page.

# Procedure Continued

Intravenous and Central Access Safety

6. Demonstrate the agreed peripheral sequence on the trainer, securing and labelling after documented model feedback. For central access follow the faculty-approved sequence and describe the device safety checks.
7. State the required verification before use and the immediate response to simulated pain, swelling or loss of expected feedback.
8. Keep unverified simulated access out of use and trace what independent assessment or confirmation is needed. If swelling, resistance or loss of function is simulated, pause and notify the team.
9. Review the dummy infusion and line labelling. Document operator, site, time, attempts, checks and ongoing need.
10. Document device, site, operator, attempts, verification status, intended use and review date. Trace the mock infusion and read back the line selection before ending the station.

## Precautions

- Use faculty-directed access trainers and discard sharps safely.
- Reassess devices promptly when findings suggest malfunction or infection.

# Observations and Interpretation

Intravenous and Central Access Safety

## Observations and Record

| Item | What to record | What it tells you |
|---|---|---|
| Preparation | Indication, route, side and aseptic checks | Reduces procedural error |
| Confirmation | Trainer feedback and specified verification | Prevents premature use |
| Record | Site, time, use restrictions and review plan | Supports follow-up |

### Worked Example

The central line trainer is secured but its confirmation has not been recorded. The student labels the case as awaiting verification and informs the team before use.

## Result and Interpretation

Complete the specified verification and document clearance through the responsible clinician. Review whether the line remains necessary.

## Viva Questions and Answers

### What is the role of ultrasound in access training?

It helps identify target anatomy and nearby structures and supports supervised needle visualisation.

### Why keep a record of attempted sites?

It helps monitor local complications and informs future access decisions.

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