INDUCTION OF ANAESTHESIA (LMA)

MODULE: NOVICE

TARGET: NOVICE ANAESTHETISTS

BACKGROUND:
This scenario is intended to allow a novice anaesthetist in his/her first few days of anaesthetic training to perform an uncomplicated anaesthetic induction using an LMA to control the airway.

**RELEVANT AREAS OF THE ANAESTHETIC CURRICULUM**

<table>
<thead>
<tr>
<th>IG_BS_01</th>
<th>Demonstrates safe practice in checking the patient in the anaesthetic room</th>
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<tbody>
<tr>
<td>IG_BS_02</td>
<td>Demonstrates appropriate checking of equipment prior to induction, including equipment for emergency use</td>
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| IG_BK_03          | In respect of the equipment in the operating environment:  
|                   |   • Demonstrates understanding of the function of the anaesthetic machine, including:  
|                   |     o Performing proper pre-use checks  
|                   |     o Changing/checking the breathing system. |
| IG_BK_04          | Demonstrates safe practice in selecting, checking, drawing up, diluting, labelling and administering of drugs. |
| IG_BK_05          | In respect of intravenous cannulation:  
|                   |   o Obtains intravascular access using an appropriate size cannula in appropriate anatomical location.  
|                   |   o Demonstrates rigorous aseptic technique when inserting cannula. |
| IG_BS_06          | In respect of monitoring:  
|                   |   • Demonstrates appropriate placement of monitoring, including ECG electrodes and NIBP cuff  
|                   |   • Manages monitors appropriately e.g. set alarms; start automatic blood pressure  
|                   |   • Demonstrates proficiency in the Interpretation of monitors |
| IG_BS_07          | Demonstrates effective pre-oxygenation, including correct use of the mask, head position and clear explanation to the patient. |
| IG_BS_08          | In respect of intravenous induction:  
|                   |   • Makes necessary explanations to the patient  
|                   |   • Demonstrates satisfactory practice in preparing drugs for the induction of anaesthesia  
|                   |   • Demonstrates proper technique in injecting drugs at induction of anaesthesia  
|                   |   • Manages the cardiovascular and respiratory changes associated with induction of general anaesthesia |
| IG_BS_10          | In respect of airway management:  
|                   |   • Demonstrates optimal patient position for airway management.  
|                   |   • Manages airway with mask and oral/nasopharyngeal airways  
|                   |   • Demonstrates hand ventilation with bag and mask  
|                   |   • Able to insert and confirm placement of a Laryngeal Mask Airway  
|                   |   • Demonstrates correct securing and protection of LMAs/tracheal tubes during movement, positioning and transfer |
INFORMATION FOR FACULTY

LEARNING OBJECTIVES:

- Preparation and checks prior to inducing anaesthesia
- Safe induction of anaesthesia
- Insertion technique of LMA

SCENE INFORMATION:

- Location: Anaesthetic Room
- Expected Duration of Scenario: 15 minutes
- Expected Duration of Debriefing: 20 minutes

EQUIPMENT & CONSUMABLES

- Manikin – On theatre trolley, RHS Inguinal hernia marked.
- Checked anaesthetic machine
- Stocked Airway trolley & Simulated Anaesthetic drugs

PERSONS REQUIRED

- Anaesthetic Novice
- Anaesthetic Assistant
- Anaesthetic Senior Trainee/Consultant

PARTICIPANT BRIEFING: (TO BE READ ALOUD TO PARTICIPANT)

This is a fit and well 24 year old patient due to undergo an inguinal hernia repair. The patient has no medical problems, no regular medication use and no allergies. The patient is fasted and consented for the operation. Their airway examination is unremarkable.

Please perform the anaesthetic induction.

‘VOICE OF MANIKIN’ BRIEFING:

You are 24 years old.
You have a right-sided lump in the groin that occurred with some heavy lifting 2 months ago. It causes occasional pain, especially on coughing, sneezing or straining.
You are otherwise well with no medical problems or allergies. You have never had an operation before.

‘ANAESTHETIC ASSISTANT’ BRIEFING:

Perform pre-operative checks when the patient arrives in the anaesthetic room (check ID, medical history, dental state, fasting state, surgical site marked, consent signed etc.). Help the participant attach monitoring and IV access (if required). Assist the participant in performing the induction of anaesthesia.
**CONDUCT OF SCENARIO**

**INITIAL SETTINGS**
A: Patient and Self-maintained
B: RR 14, SpO2 96% RA
C: HR 90 (Sinus), BP 120/80
D: Eyes open and alert
E: Hospital gown. RHS Inguinal region marked

**EXPECTED ACTIONS**
- Ensure that anaesthetic machine is checked.
- Ensure that the induction drugs and emergency drugs are drawn up and correctly labelled.
- Review anaesthetic plan with assistant (IV induction, size of LMA)
- Allow assistant to perform check-in and WHO.
- Review history and examination if required.
- Attach monitoring
- Check IV access
- Optimise position of patient prior to induction.
- Pre-oxygenate
- Give appropriate induction.

**INDUCTION**
A: Patient and Self-maintained
B: SpO2 falls over 8 minutes to 92% unless ventilation takes place. RR falls to 0 over 1 minute, returns to 10 after 1 minute.
C: HR 80 (Sinus), BP falls to 90/50 over 2 minutes
D: Eyes closed (AVPU)

**EXPECTED ACTIONS**
- Gently mask ventilate
- Turn on vaporiser
- Continue mask ventilation
- Insert LMA
- Check ability to ventilate
- Secure LMA in place
- Tape eyes (as per local practice)
- Get ready to transfer to theatre (disconnect monitoring, turn off vaporiser, reduce O2 flow, disconnect circuit from HME filter).

**NORMAL DIFFICULTY**
No adverse events occur

**HIGH DIFFICULTY**
Any one of these events:
- BP falls to 60/30 – requires consideration of fluids and pressor.
- HR falls to 40 – consider Atropine/Glycopyrolate.
- SpO2 falls to 92% - check 100% FiO2, LMA position and adequate ventilation.

**RESOLUTION**
When patient is safe to transfer to theatre
**Anaesthetic Record Sheet**

**Patient Details**
- **Hospital No.:**
- **Surname:**
- **Address:**
- **DOB:** Sex: M / F
- **Procedure(s) proposed:**
  - Open Right-sided Inguinal Hernia Repair
- **CEP/D Class:** ELECTIVE / SCHEDULED / URGEN / EMERGEN

**Anaesthetist's Preoperative Assessment by**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Grade:</th>
<th>Date:</th>
<th>Time:</th>
<th>Signature</th>
</tr>
</thead>
</table>

**Anaesthesia / Surg History:**
- Nil

**Medical History:**
- Nil

**Airway Assessment**
- **O/E:** Unremarkable
- **Mouth Opening:** 1 2 3 4
- **Jaw:** Unremarkable
- **Neck:**

**TEETH**
- 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8
- 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8

**VTE Risk:**
- High / Low

**NBM since:**
- Clear Fluids: Fasting History
- Pregnancy: Preg Hx
- Lactation: Unremarkable

**Relevant Medication:**
- Medication History

**Investigations:**
- Haematology
  - FBC
  - NAD
- Biochemistry
  - U & E
  - NAD
- Coag
  - NAD
- Blood Sugar
- Gp. & Save
- X - Ray
- X - Match

**Consent:**
- GA
- Sedation
- Epidural
- Spinal
- Regional
- Suppository

**Notes / Discussion / Technique proposed:**

- Anaesthetic Information leaflet received by patient

**For attention of ward staff:** (further investigations, fasting, continue/omit current medication, etc.)
**Anaesthetic Machine Check**

Vascular access:

**Supervising Anaesthetic Consultant (S-AC)**
- AOD

**Discussion with S-AC**
- Remote

**Breathing System**
- Bain
- T-Piece
- Circle + Absorber

**Tracheal Intubation**
- Oral
- Nasal
- Tracheostomy

**Monitoring**
- ECG
- NIBP
- ETCO₂
- F; O₂
- Anaes. Vapour
- Disconnect
- Airway Press.
- Nerve Stim.
- Temperature

**Drugs**

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Dose</th>
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<tr>
<td></td>
<td>0</td>
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</tbody>
</table>

**Position of Patient**
- Prone
- Lateral
- R-Lateral
- Lithotomy
- DHS Table
- Deck Chair

**Tourniquet (site / times)**
- Site:
  - On: 0
  - Off: 0

**DVT Prophylaxis**
- Heparin
- Rivaroxaban
- TEDS
- IC Boots

**Comments:**

**Supervisor(s):**
- Name:
- Grade:

**Anaesthetic Record Entered By:**
- Name:
- Grade:
- Signature:
DEBRIEFING

POINTS FOR FURTHER DISCUSSION:

DEBRIEFING RESOURCES
INFORMATION FOR PARTICIPANTS

KEY POINTS:
- Preparation and checks prior to inducing anaesthesia
- Safe induction of anaesthesia
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RELEVANCE TO AREAS OF THE ANAESTHETIC CURRICULUM

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PARTICIPANT REFLECTION:

What have you learnt from this experience? (Please try to list 3 things)

How will your practice now change?

What other actions will you now take to meet any identified learning needs?
PARTICIPANT FEEDBACK

Date of training session: ..........................................................................................................................................

Profession and grade: ..........................................................................................................................................

What role(s) did you play in the scenario? (Please tick)

- Primary/Initial Participant
- Secondary Participant (e.g. ‘Call for Help’ responder)
- Other health care professional (e.g. nurse/ODP)
- Other role (please specify):
- Observer

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I found this scenario useful</td>
<td></td>
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<td></td>
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<tr>
<td>I understand more about the scenario subject</td>
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<tr>
<td>I have more confidence to deal with this scenario</td>
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<tr>
<td>The material covered was relevant to me</td>
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Please write down one thing you have learned today, and that you will use in your clinical practice.

How could this scenario be improved for future participants?
   (This is especially important if you have ticked anything in the disagree/strongly disagree box)
What went particularly well during this scenario?

What did not go well, or as well as planned?

Why didn’t it go well?

How could the scenario be improved for future participants?