

Anesthesia for healthy patient



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Case :3

A 52-year-old man has had progressive knee pain and swelling. He was tentatively diagnosed with a torn meniscus and recommended arthroscopy. The patient has no major illnesses other than typical childhood diseases. He has no previous operations or anesthesia. He has no allergies, does not smoke, and is not on diabetic medications. His blood sugar is controlled with oral medication. He has had a normal examination by an internist and has not eaten or drunk anything since the last night he went to bed.

- **What is ASA status?**



American Society Anesthesia (ASA) classification system

<u>ASA grade</u>	<u>Definition</u>	<u>Example</u>
I	A patient normal healthy	
II	A patient with mild systemic disease	Well-controlled hypertension, asthma
III	A patient with severe systemic disease	Controlled CHF, stable angina
IV	A patient with severe systemic disease	Unstable angina, symptomatic COPD, symptomatic CHF that is a constant threat to life
V	A moribund patient who is not expected	Multiorgan failure, sepsis syndrome hemodynamic survive without the operation
VI	A declared brain-dead patient whose organs are being removed for donor purposes	

“E” – added to the classifications indicates emergency surgery.

According to the previous ASA classification table this patient in which grade :

- He is on grade 2 of ASA Classification.

- How will you prepare a diabetic patient for surgery ?

- Determine the type of diabetes and its management .

it is important to confirm the form of diabetes present, as patients with type 1 diabetes must continue a basal rate insulin replacement preoperatively while patients on oral hypoglycemics should stop using them 1 day before surgery

- Ensure that the patient's diabetes is well controlled .

- Ensure that the patient is capable of managing their diabetes after discharge from hospital .

- Consider the presence of complications of diabetes that might be adversely affected by or that might adversely impact upon the outcome of the proposed procedure .

On examination, the patient weighs 75 Kg and is 182 Cm, in tall. His neck appears to be flexible and mobile. He opens his mouth without difficulty, and with his head extended and tongue protruding, his uvula is completely visible.

- **Discuss the airway assessment for this patient?**

History

- Past anesthetic history
- Surgery/radiotherapy to head and neck.
- Obstructive sleep apnea (OSA.)
- Conditions affecting tongue size (e.g. acromegaly, infections, tumors)
- Conditions affecting neck mobility (e.g. ankylosing spondylitis, infections, tumors.)
- Conditions affecting mouth opening (e.g. temporomandibular joint dysfunction .)

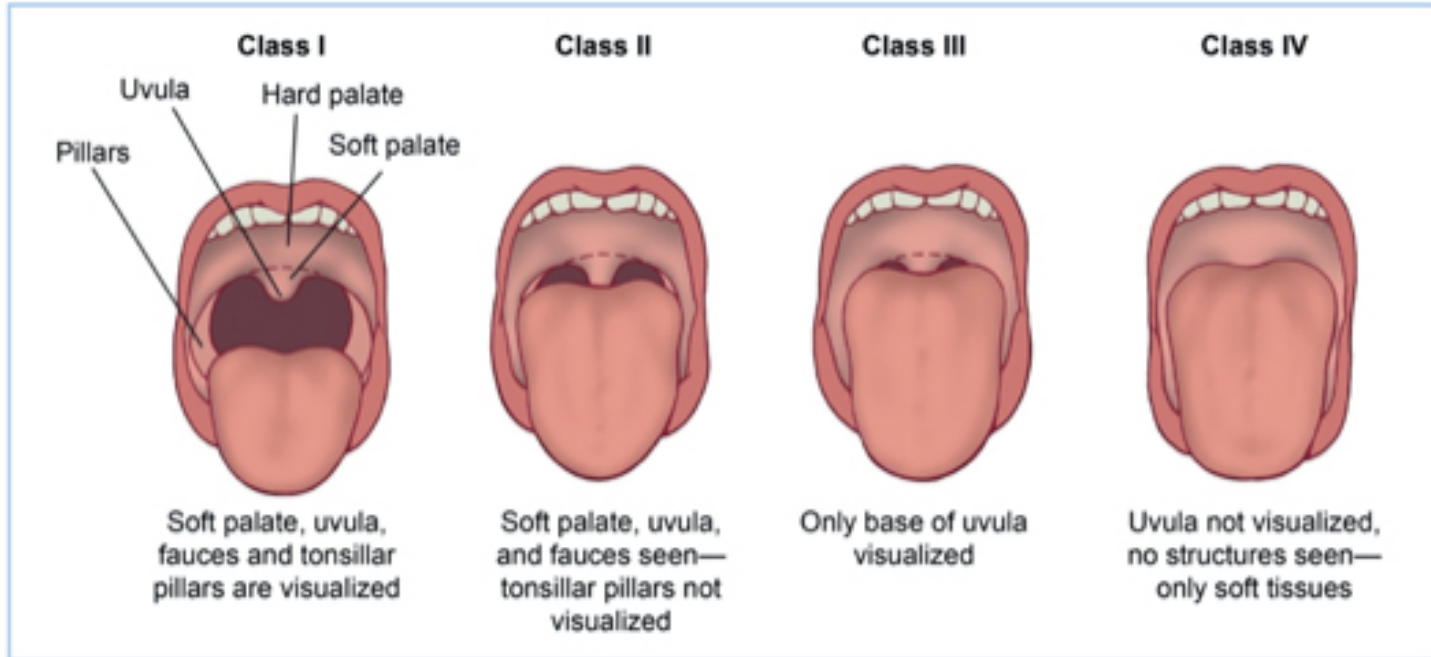
- **Discuss the airway assessment for this patient?**

LEMON criteria

- L Look externally
- E Examination
- M Mallampati
- O Obstruction
- N Neck mobility

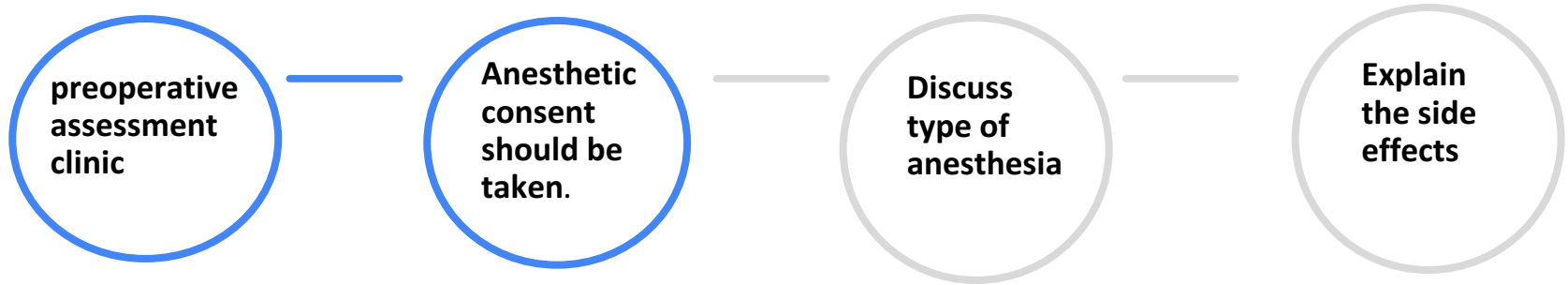


- Mallampati Classification



- **Discuss anesthesia plan for this patient**

(1PreOperative Management:



(2) Intra Operative Management:

before moving into the operating theatre

- To establish IV access.
- Apply monitors:
 - .1 ECG. pulse
 - .2
 - .3 oximeter non-invasive blood pressure.



At the OR

- **Airway must be secured** e.g. with an LMA or) (endotracheal tube
- **Then** further motoring/interventions are performed) e.g. nasogastric tube urinary catheter insertion occur, if indicated.

(3) Post Operative Management:

End Of Operation

- Extubated in the operating theatre (and an oropharyngeal airway inserted if needed.)

- Transferred to the recovery room with an LMA still in situ.

All patients receive supplemental oxygen during transfer .

In Recovery Room

.1 patient's name and age. .2 operation details. .3 blood loss

.4 analgesia given .5 antiemetics given .6 Antibiotics

.7 thromboprophylaxis.

Leave Recovery Room?

.1 awake and in complete control of airway reflexes .

.2 pain free. .3 no/minimal nausea and vomiting.

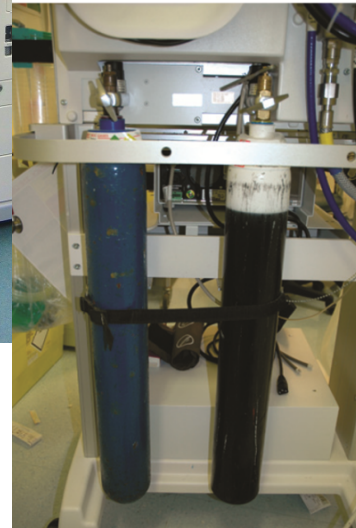
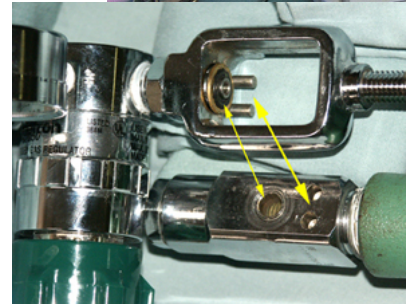
.4 no/minimal bleeding from surgical site. .5 normothermic.

What is the check list for sign in and time out?

Before induction of anesthesia	Before skin incision	Before patient leaves operating room
<h2 data-bbox="363 267 515 314">SIGN IN</h2> <ul style="list-style-type: none"><input type="checkbox"/> Patient has confirmed:<ul style="list-style-type: none">• Identity• Site• Procedure• Consent<input type="checkbox"/> Site marked <input type="checkbox"/> Not applicable<input type="checkbox"/> Anesthesia safety check completed<input type="checkbox"/> Pulse Oximeter on patient and functioningDoes patient have a Known allergy? <input type="checkbox"/> NO <input type="checkbox"/> YESDifficult airway/aspiration risk? <input type="checkbox"/> NO <input type="checkbox"/> YES, and equipment/assistance availableRisk of >500ml blood loss (7ml/kg in children)? <input type="checkbox"/> NO <input type="checkbox"/> YES, and adequate intravenous access and fluids planned	<h2 data-bbox="871 267 1058 314">TIME OUT</h2> <ul style="list-style-type: none"><input type="checkbox"/> Confirm all team members have introduced themselves by name and role<input type="checkbox"/> Surgeon, Anesthesia Professional and Nurse verbally confirm:<ul style="list-style-type: none">• Patient• Site• ProcedureAnticipated critical events:<ul style="list-style-type: none"><input type="checkbox"/> Surgeon reviews: What are the critical or unexpected steps, operative duration, anticipated blood loss?<input type="checkbox"/> Anesthesia team reviews: Are there any patient-specific concerns?<input type="checkbox"/> Nursing team reviews: Has sterility (including indicator results) been confirmed? Are there equipment issues or any concerns?Has antibiotic Prophylaxis been given within the last 60 minutes? <input type="checkbox"/> YES <input type="checkbox"/> Not applicableIs essential imaging displayed? <input type="checkbox"/> YES <input type="checkbox"/> Not applicable	<h2 data-bbox="1362 267 1549 314">SIGN OUT</h2> <p data-bbox="1329 336 1582 394">Nurse verbally confirms with the team:</p> <ul style="list-style-type: none"><input type="checkbox"/> The name of the procedure recorded<input type="checkbox"/> That instrument, sponge, and needle counts are correct (or not applicable)<input type="checkbox"/> How the specimen is labelled (including patient name)<input type="checkbox"/> Whether there are any equipment problems to be addressed<input type="checkbox"/> Surgeon, Anesthesia Professional and Nurse review the key concerns for recovery and management of this patient

- Discuss the safety features of anesthesia machine

- **Non-interchangeable screw threads (NISTs)** prevent the incorrect pipeline gas being connected to the machine inlet
- A **pin index system** is used to prevent incorrect cylinder connection.
- Pressure reducing **valves/regulators** and flow restrictors to prevent barotrauma
- The oxygen failure **warning alarm** is pressure driven and alerts of imminent pipeline or cylinder failure
- Interlocking vaporizers on the back bar prevent two anaesthetic vapours being given simultaneously



- Discuss the safety features of anesthesia machine

- flow delivered through the anaesthetic machine is displayed by a **bobbin within a rotameter** to allow accurate gas delivery.

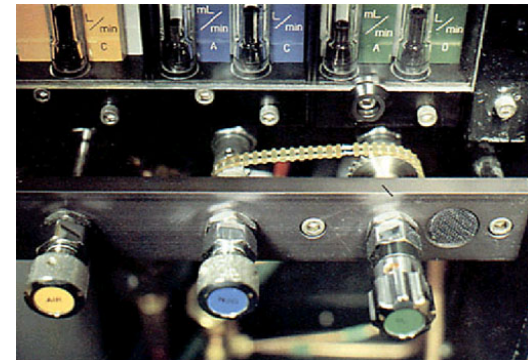
- Hypoxic guard:** the O₂ and N₂O control knobs are linked, preventing <25% O₂ being delivered when N₂O is used.

- Emergency oxygen flush:** when pressed, oxygen bypasses the back bar and is 35 L/min delivered to the CGO (common gas outlet) at L/min

- Suction:** generated suction is used to clear airway-pressure-adjustable negative secretions/vomit and must be available for all cases

- Scavenged gases** are usually vented to the atmosphere. Scavenging tubing has a 30% wider bore (mm), preventing accidental connection to breathing circuits.

- Ventilator alarms** warn of high and low pressure.



References :

- <https://www.asahq.org/resources/clinical-information/asa-physical-status-classification-system>
- PERI-OPERATIVE DIABETES MANAGEMENT GUIDELINES AUSTRALIAN DIABETES SOCIETY 2012
- Anesthesia At a Glance , Julian Stones and William Fawcett. 2013

THANK YOU