



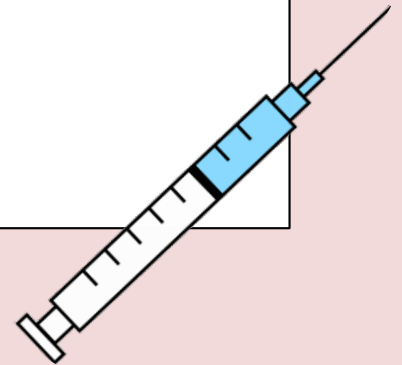
# Preoperative evaluation

Anesthesia presentation (Case 1)

Group A

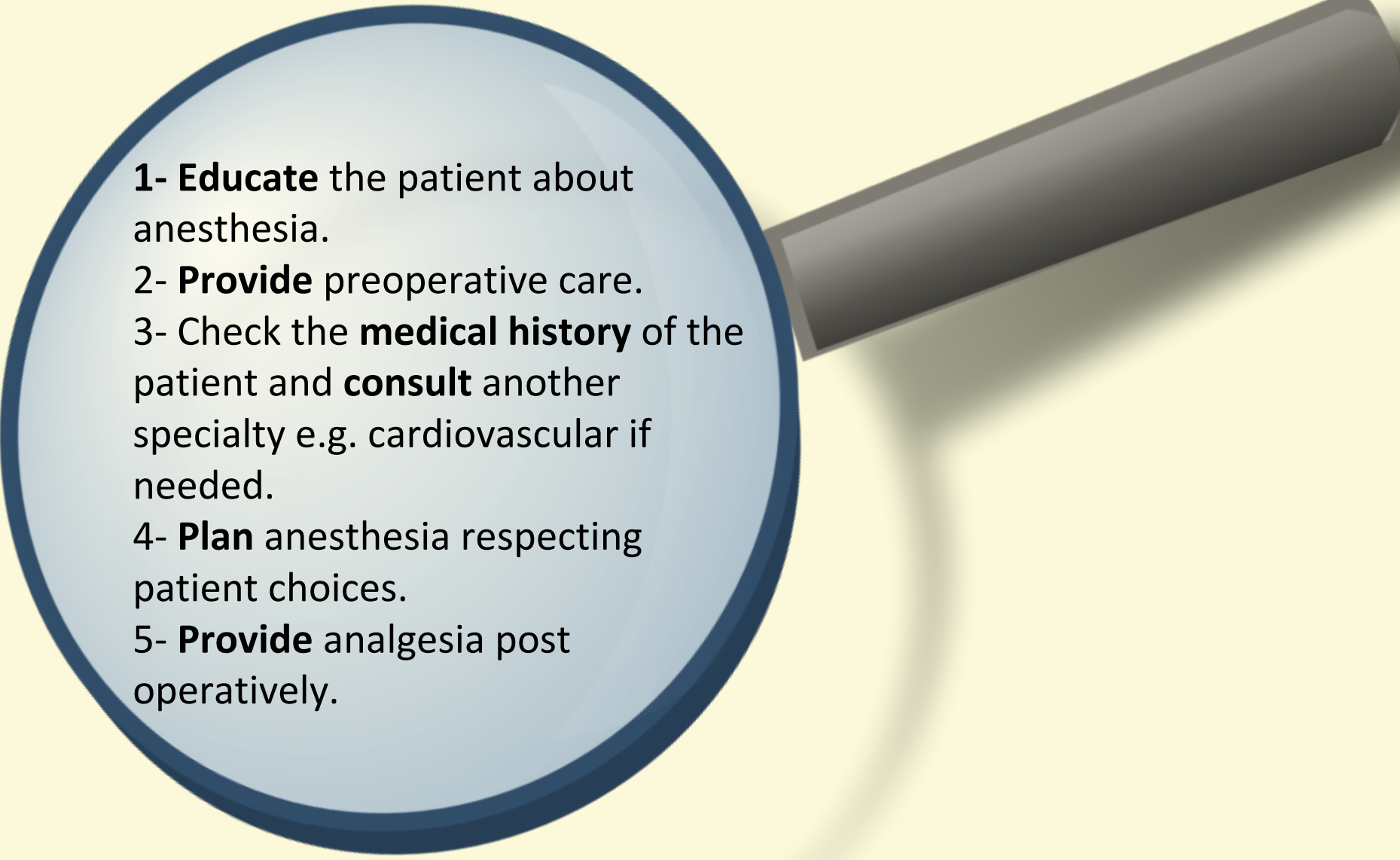


**A 45 year old man is undergoing a preoperative evaluation for a laparoscopic cholecystectomy due to acute cholecystitis. He has a history of rheumatoid arthritis for 10 years, last attack 2 months ago, body weight 118kg  
height 161  
BP: 165/89  
HR:98/min**

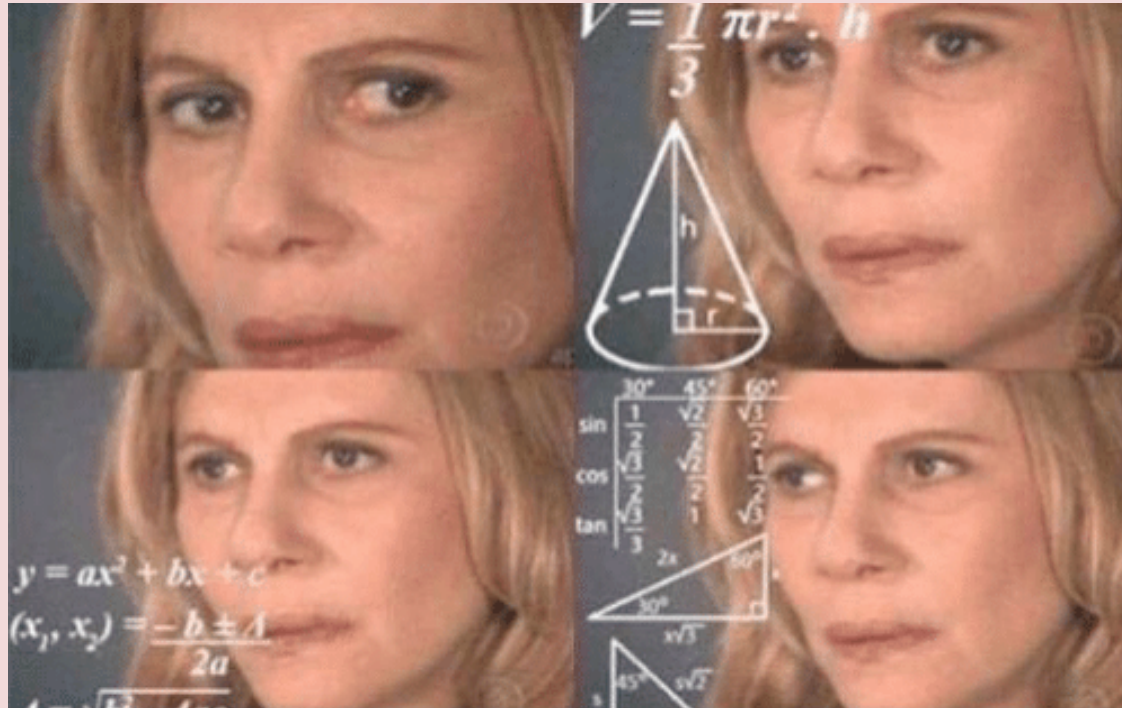


# Before we start!

## The goals of preoperative assessment

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- 1- **Educate** the patient about anesthesia.
  - 2- **Provide** preoperative care.
  - 3- Check the **medical history** of the patient and **consult** another specialty e.g. cardiovascular if needed.
  - 4- **Plan** anesthesia respecting patient choices.
  - 5- **Provide** analgesia post operatively.

# 1. What does ASA status mean?



Is a system for assessing the fitness of patients before surgery, adopted by the American Society of Anesthesiologists.

# ASA PHYSICAL STATUS CLASSIFICATION SYSTEM

ASA PS Classification	Definition	Examples, including, but not limited to:
<b>ASA I</b>	A normal healthy patient	Healthy, non-smoking, no or minimal alcohol use
<b>ASA II</b>	A patient with mild systemic disease	Mild diseases only without substantive functional limitations. Examples include (but not limited to): current smoker, social alcohol drinker, pregnancy, obesity (30 < BMI < 40), well-controlled DM/HTN, mild lung disease
<b>ASA III</b>	A patient with severe systemic disease	Substantive functional limitations; One or more moderate to severe diseases. Examples include (but not limited to): poorly controlled DM or HTN, COPD, morbid obesity (BMI ≥40), active hepatitis, alcohol dependence or abuse, implanted pacemaker, moderate reduction of ejection fraction, ESRD undergoing regularly scheduled dialysis, premature infant PCA < 60 weeks, history (>3 months) of MI, CVA, TIA, or CAD/stents.
<b>ASA IV</b>	A patient with severe systemic disease that is a constant threat to life	Examples include (but not limited to): recent (< 3 months) MI, CVA, TIA, or CAD/stents, ongoing cardiac ischemia or severe valve dysfunction, severe reduction of ejection fraction, sepsis, DIC, ARD or ESRD not undergoing regularly scheduled dialysis
<b>ASA V</b>	A moribund patient who is not expected to survive without the operation	Examples include (but not limited to): ruptured abdominal/thoracic aneurysm, massive trauma, intracranial bleed with mass effect, ischemic bowel in the face of significant cardiac pathology or multiple organ/system dysfunction
<b>ASA VI</b>	A declared brain-dead patient whose organs are being removed for donor	

## 2. What are the preoperative evaluations?



**Morbid Obesity**



**Airway**



**Arthritis**

# Arthritis

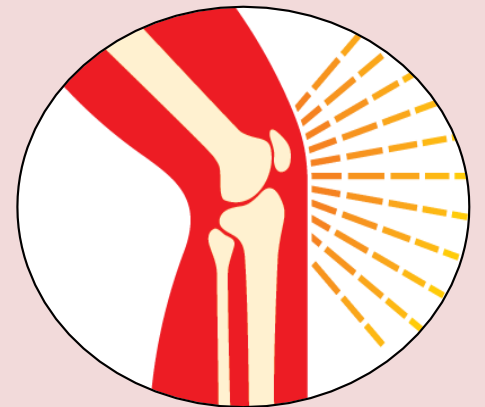
**1. Pain and Joint Limitation:** positioning awake patient might be hard and it may increase joint pain symptoms.

**1. Airway:** If the Arthritis involved the joints needed for intubation, the intubation will be difficult.

- **Temporomandibular joint involvement:** can reduce mouth opening, hindering intubation or laryngeal mask insertion.

- **Atlanto-occipital joint and cervical spine** including instability and subluxation.

**1. Medication:**





# Morbid Obesity

**Preoperative evaluation for patients with morbid obesity is used to assess the anesthetic risks in relation to the proposed surgery, to decide the anesthetic technique:**

**1- general**

**2- regional**

**3-Combination**

**And to plan the postoperative care including any analgesic regimens.**





**The BMI is defined as the body mass divided by the square of the body height**

Underweight	BMI less than 18.5
Normal Weight	BMI 18.5 to 24.9
Overweight	BMI 25 to 29.9
Obese	BMI 30 or greater
Morbidly Obese	BMI 40 or greater

# Further evaluation if the patient experience Cardiovascular or respiratory impairment

## Cardiovascular

- IHD
- HTN
- Cardiac failure
- Dysrhythmias (hypoxia, hypercapnia)

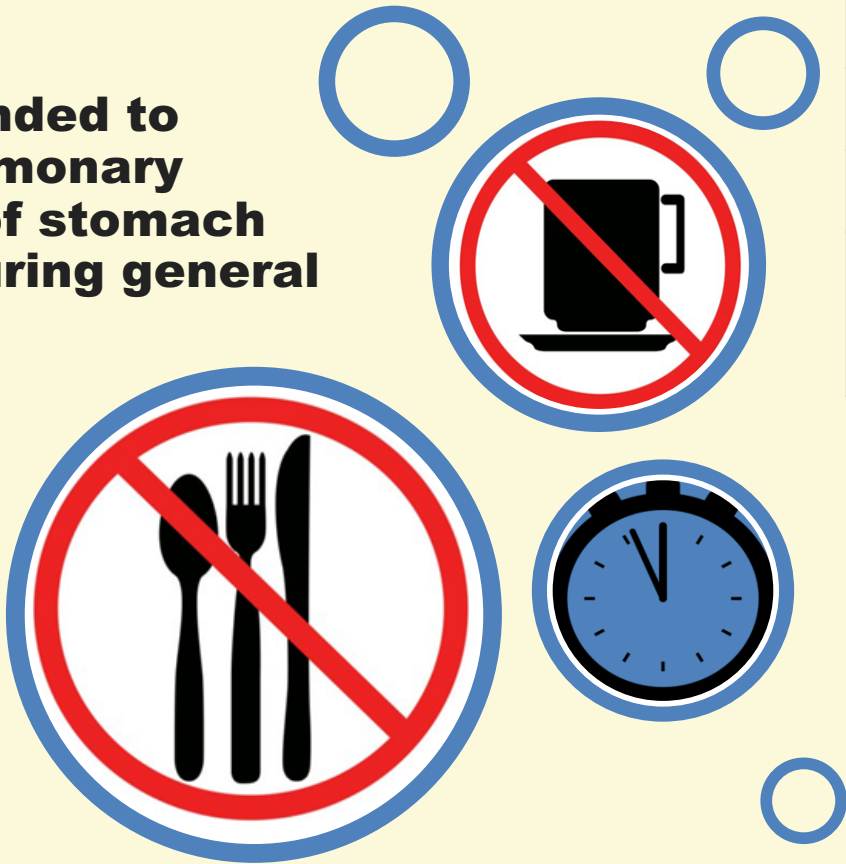
## Respiratory

- Obstructive sleep apnea
- Difficult intubation
- Ventilation problems



### 3. What is the NPO Status required preoperative?

**This is intended to prevent pulmonary aspiration of stomach contents during general anesthesia**



<b>Age</b>	<b>Solids</b>	<b>Clear liquid</b>
<6 months	4 hours	2 hours
6–36 months	6 hours	3 hours
>36 months (including adults)	6 hours	2 hours

**in some hospitals it is now common practice to allow clear fluids until 2 hours before surgery.**

**4. What is Preoperative Medications you can be given to the patient before surgery?**



# Premedication

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**Premedication is the administration of medication before anesthesia.**

**They are used to prepare the patient for anesthesia and to help provide optimal conditions for surgery**

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**Reduction of anxiety and pain.**

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**Promotion of amnesia.**

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**Reduction of secretions**

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**Reduction of volume and pH of gastric contents (to avoid Mendelson's syndrome)**

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**Reduction of postoperative nausea and vomiting.**

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**Specific indications - e.g. prevention of infective endocarditis.**

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# Common purposes of premedications



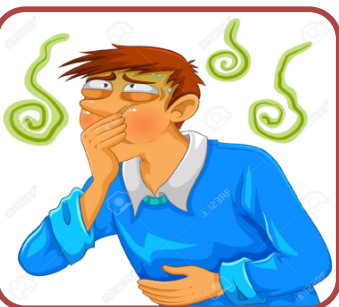
## 1-Anxiety

- Benzodiazepines are ideal agents to reduce anxiety.
- They provide anterograde amnesia and light sedation.
- If given orally 1-2 hours before surgery, they have a small effect on cardiorespiratory function but large doses can interfere with the speed and quality of recovery.



## 2-Analgesia

- Opioids, paracetamol and NSAID's reduce the required dose of anesthetic agent and improve patient comfort in the immediate postoperative period.
- Opioids cause variable sedation and cardiorespiratory depression.
- All opioids cause nausea and vomiting and this may outweigh any beneficial effects and may also precipitate bronchospasm or anaphylaxis.

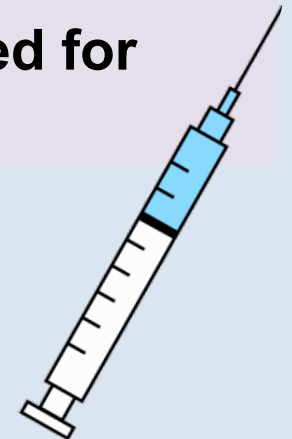


## 3-Antiemetics

- A risk score for predicting postoperative nausea and vomiting after inhalation anesthesia has identified four risk factors:
  - 1-Female gender
  - 2-Prior history of motion sickness or post op nausea
  - 3-Non-smoking
  - 4-Use of postoperative opioids.
- Use prophylactic antiemetic when 2 or more risk factors are present..

## Cont. Common purposes of premedications

- Premedication is traditionally given intramuscularly but the oral route is preferred for children and those with bleeding disorders.
- Premedication is usually given 1-3 hours pre-operatively.
- Topical anesthetic creams (eg, EMLA®) are often prescribed for children before cannulation.



## Drug therapy

Drug therapy is usually continued throughout the operative period, especially cardiac and antihypertensive drugs.

oral contraceptives and hormone replacement therapy require thromboprophylaxis with subcutaneous low molecular weight heparin and graduated elastic compression stockings.

Potential interactions with anesthetic drugs should be considered.



# References:

- Anesthesia at a glance.
- <http://patient.info/doctor/premedication>

# Thank you!

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