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# **PRE-ANAESTHETIC EVALUATION & PREPARATION**

# PREOPERATIVE EVALUATION

1. History
2. Physical examin.
3. Labor. tests
4. Pat. instruction
5. Recommendation  
next preoperative  
preparing
6. ASA classification
7. Premedication
8. Type of anaesthesia
9. Drugs & equipment  
for anaesthesia

# PERSONAL HISTORY

- Indication
- Previous anaesthetics and surgical procedures
- Allergy
- Co-existing diseases
- Used drugs

# PHYSICAL EXAMINATION

- Patient's attitude
- Hydration status
- Nutritional status
- Risk of difficult intubation
- Cardiovascular status, BP, P
- Respiratory status
- Drugs on ward
- NG tube
- . . . .

# CORMACK - LEHANE



Grade I



Grade II



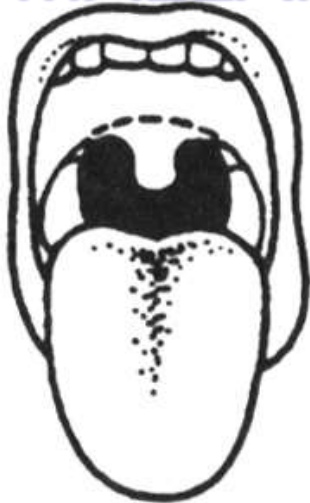
Grade III



Grade IV

(a)

# MALLAMPATTI



Class 1



Class 2



Class 3



Class 4

(b)



# LABORATORY TESTS

- RBC, ions, ABG, spirometry, ECHO-kg, haemocoagulation status,
- Ecg
- Lung X-ray
- Urine analysis
- Other special exams

# ASA Classification

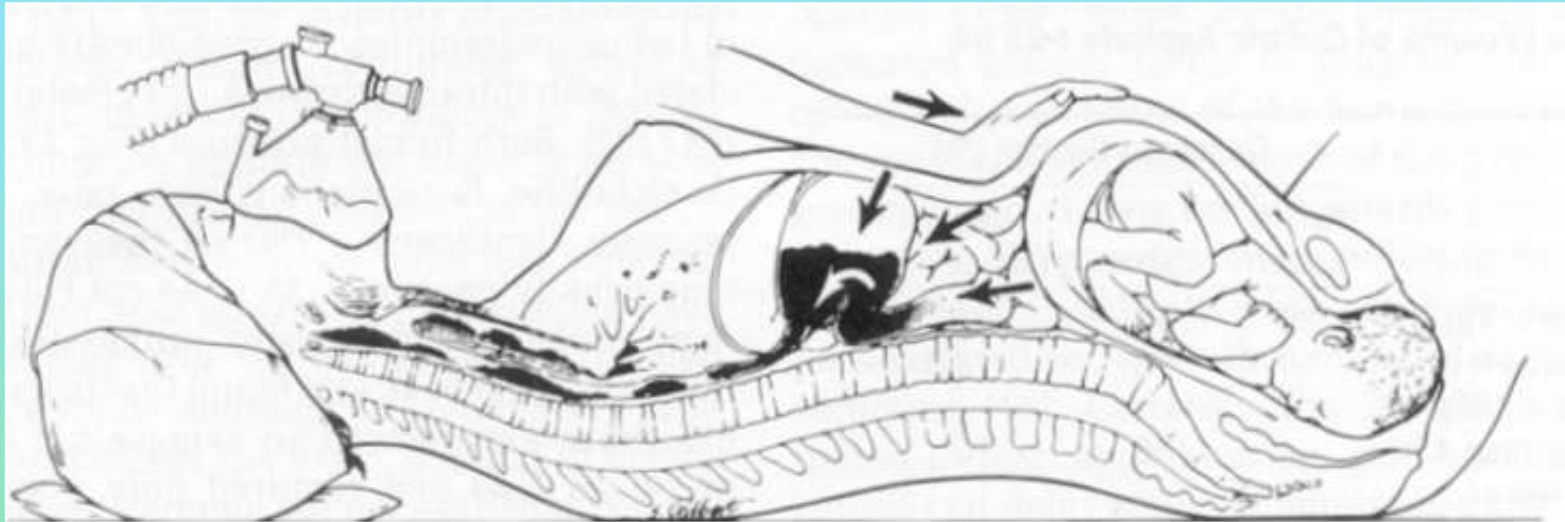
- **Class 1** Healthy patient, no medical problems  
(% mortality 0,1)
- **Class 2** Mild systemic disease  
(% mortality 0,2)
- **Class 3** Severe systemic disease, but not  
incapacitating  
(% mortality 1,8)
- **Class 4** Severe systemic disease that is a  
constant threat to life  
(% mortality 7,8)
- **Class 5** Moribund, not expected to live 24 hours  
irrespective of operation  
(% mortality 9,4)
- An **E** is added to the status number to designate an  
emergency operation. ↑% mortality 1,5-2x
- An organ donor is usually designate as Class 6



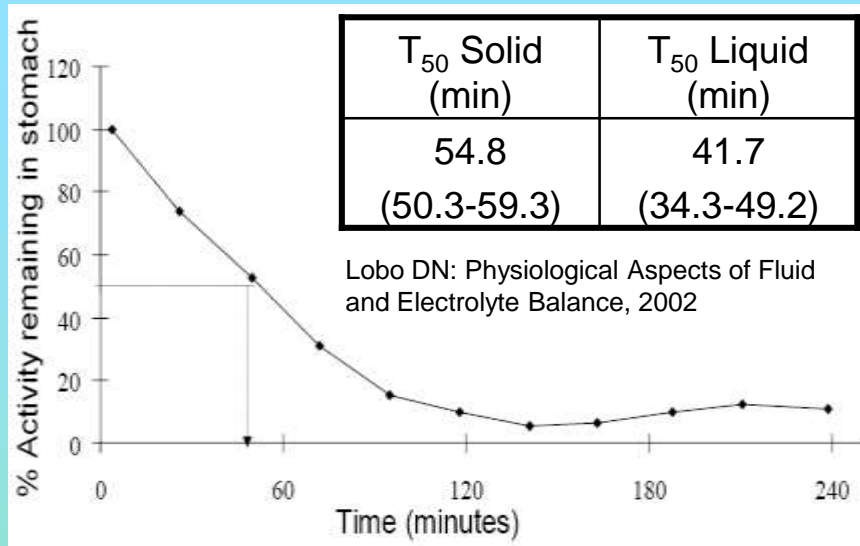
# INSTRUCTIONS

- Preoperative drinking
  - 2 – 4 – 6 hours
- Sleeping
- Medication
- Prostheses

# Regurgitation of stomach content under general anesthesia



# GASTRIC EMPTYING

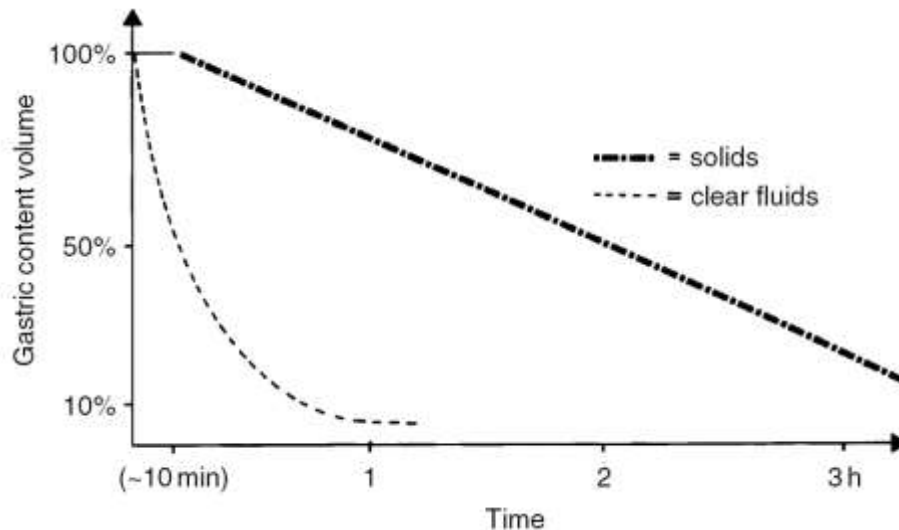
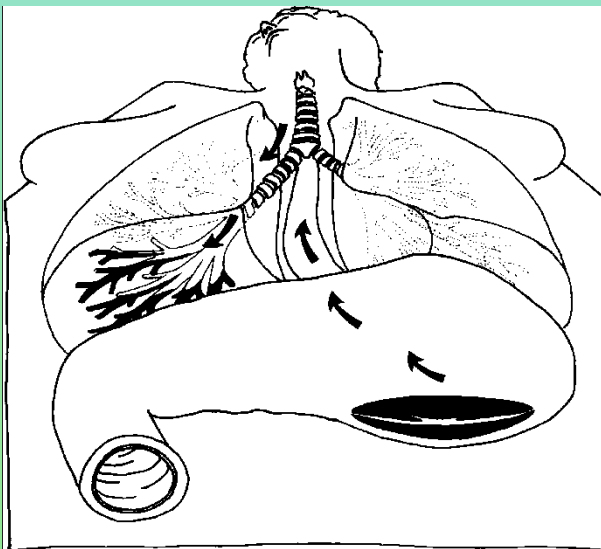


## Mendelson's sy

Clear fluids <200 ml, > 2 h

Solid food > 6 h

## Gastric emptying curve after light breakfast (gamma camera T50)



# NEXT ACTIVITIES

- Pre-premedication
- Fluids
- Packed blood cells
- Venous & arterial access

# PREMEDICATION

## Aims:

- Sedation
- Analgesia
- (Anticholinergic)
- (↓ anaesthetics)

## Routs:

- per os  
tab, syrup, drops,  
sucker (lollipop)
- IM
- IV
- rectal
- nasal
- transdermal

# TYPES OF ANAESTHESIA

- General (IV, IV+R, TIVA, Inhal, Inhal+R, IM)
- Regional (neuraxial, block, IVRA)
- Combined (general + neuraxial, + block)
- Analgosedation
- Stand by

# DRUGS & EQUIPMENT


- Anaesthetics, analgesics, NMBA
- Infusion solutions
- Anaesth. equipment
- Special drugs
- Emergency equipment & drugs

# PRE ANESTHETIC CHECK LIST

Patient name \_\_\_\_\_ Number \_\_\_\_\_

Date of birth \_\_\_\_\_ Procedure \_\_\_\_\_

Site \_\_\_\_\_

Check patient risk factors <i>(if yes – circle and annotate)</i>		Check resources	Present and functioning
ASA 1 2 3 4 5 E		<b>Airway</b> – Masks – Airways – Laryngoscopes (working) – Tubes – Bougies	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Airway (Mallampati classification)</b>  Class 1    Class 2    Class 3    Class 4		<b>Breathing</b> – Leaks (a fresh gas flow of 300 ml/min maintains a pressure of >30 cm H <sub>2</sub> O) – Soda lime (colour, if present) – Circle system (two-bag test, if present)*	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Aspiration risk?	No	<b>suCtion</b>	<input type="checkbox"/>
Allergies	No	<b>Drugs and devices</b> – Oxygen cylinder (full and off) – Vaporizers (full and seated) – Drips (intravenous secure) – Drugs (labelled, total intravenous anesthesia connected) – Blood and fluids available – Monitors: alarms on – Humidifiers, warmers and thermometers	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Abnormal investigations?	No		
Medications?	No	<b>Emergency</b> – Assistant – Adrenaline – Suxamethonium – Self-inflating bag – Tilting table	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
co-Morbidities?	No		



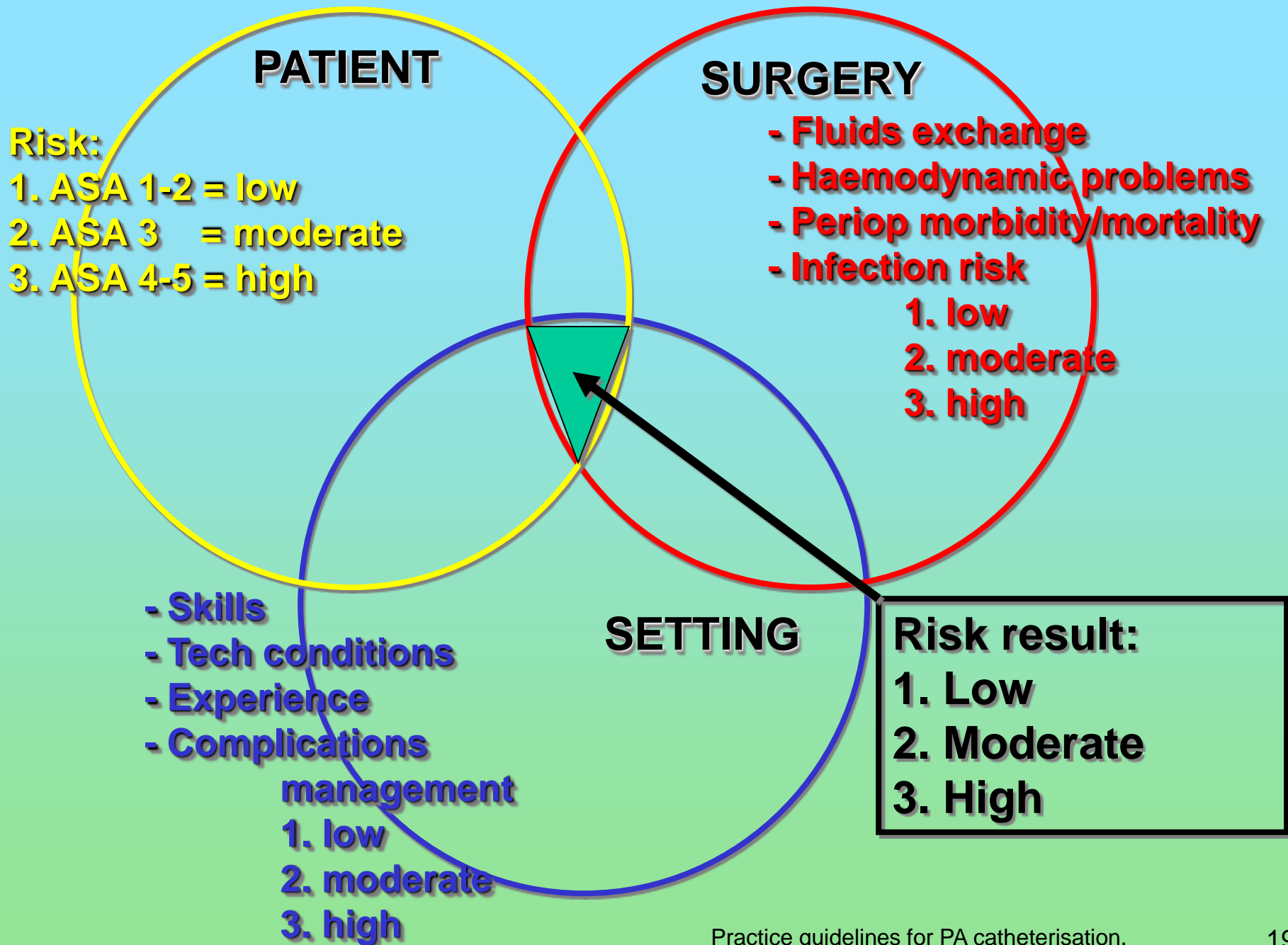
# The lowest acceptable Hb & Htc levels

<a href="http://www.ianestesi.se/">http://www.ianestesi.se/</a>	Hb	Htc	
<b>„Young &amp; healthy“</b>			
Children/adolescents, ASA 1 in optimal conditions	<b>70 g/l</b>	20 %	Sverige
	7 g/100 ml	"	Norge
	4,3 mmol/l	"	Danmark
<b>„Elder“</b>			
Middle age, ASA 2 and healthy old people	<b>90 g/l</b>	27 %	Sverige
	9 g/100 ml	"	Norge
	5,6 mmol/l	"	Danmark
<b>„Cardiacs“</b>			
Cardiovascular and lung diseases, ASA 3-4	<b>110 g/l</b>	33 %	Sverige
	11 g/100 ml	"	Norge
	6,8 mmol/l	"	Danmark

# Surgical risk estimate according to type of surgery or intervention

Low-risk: <1%	Intermediate-risk: 1–5%	High-risk: >5%
<ul style="list-style-type: none"> <li>† Superficial surgery</li> <li>† Breast</li> <li>† Dental</li> <li>† Endocrine: thyroid</li> <li>† Eye</li> <li>† Reconstructive</li> <li>† Carotid asymptomatic (CEA or CAS)</li> <li>† Gynaecology: minor</li> <li>† Orthopaedic: minor (meniscectomy)</li> <li>† Urological: minor (transurethral resection of the prostate)</li> </ul>	<ul style="list-style-type: none"> <li>† Intraperitoneal: splenectomy, hiatal hernia repair, cholecystectomy</li> <li>† Carotid symptomatic (CEA or CAS)</li> <li>† Peripheral arterial angioplasty</li> <li>† Endovascular aneurysm repair</li> <li>† Head and neck surgery</li> <li>† Neurological or orthopaedic: major (hip and spine surgery)</li> <li>† Urological or gynaecological: major</li> <li>† Renal transplant</li> <li>† Intra-thoracic: non-major</li> </ul>	<ul style="list-style-type: none"> <li>† Aortic and major vascular surgery</li> <li>† Open lower limb revascularization or amputation or thromboembolectomy</li> <li>† Duodeno-pancreatic surgery</li> <li>† Liver resection, bile duct surgery</li> <li>† Oesophagectomy</li> <li>† Repair of perforated bowel</li> <li>† Adrenal resection</li> <li>† Total cystectomy</li> <li>† Pneumonectomy</li> <li>† Pulmonary or liver transplant</li> </ul>

Surgical risk estimate is a broad approximation of **30-day risk of cardiovascular death and myocardial infarction** that takes into account only the specific surgical intervention without considering the patient's comorbidities. CAS = carotid artery stenting; CEA = carotid endarterectomy.



# INCIDENCE

	In hospital	/ 10 000
Difficult intubation	1:50	200
Intubation failure	1:500	20
No intubate, no ventilate	1:5000	2

Jenkins K., Barker A.B.: Consent and anaesthetic risk. *Anaesthesia* 2003, 58, 962-984.

## Familiar Risks

1 in 1

Very Common

1 in 10

Common

1 in 100

Uncommon

1 in 1 000

Rare

1 in 10 000

Very Rare

1 in 100 000

Extremely Rare

1 in 1 000 000

1 in 10 000 000

3 Balls in UK National Lottery

Death from Smoking 10 / Day for 1 year

Death all Causes to Age 40

4 Balls in UK National Lottery

Death by RTA

Death by Accident at Home

Death by Accident at Work

Death by Murder

Death by Rail Accident

5 Balls + Bonus UK National Lottery

Death by Lightning Strike or Nuclear Power Accident

6 Balls in UK National Lottery

## Clinical Risks

Smith A.: Risk perception and communication in anaesthesia. Refresher course lectures. Euroanaesthesia 2003, Glasgow. pp. 1-6

Awareness under Anaesthesia

Neurological Injury with Spinal

Neurological Injury with Epidural

Death from Anaesthesia 1982

Spinal Haematoma after Epidural

Death from Anaesthesia CEPOD 1987

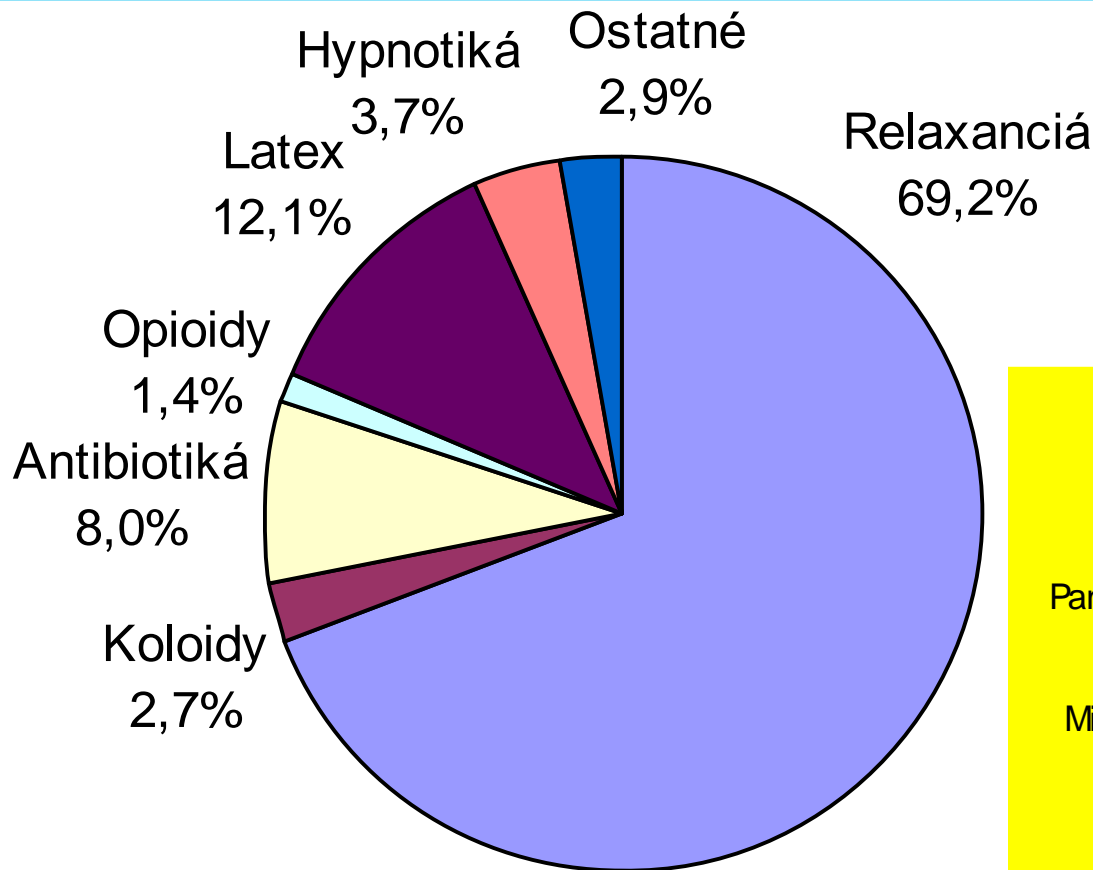
Spinal Haematoma after Spinal

Maternal Deaths from Anaesthesia CEMD 1988-1990

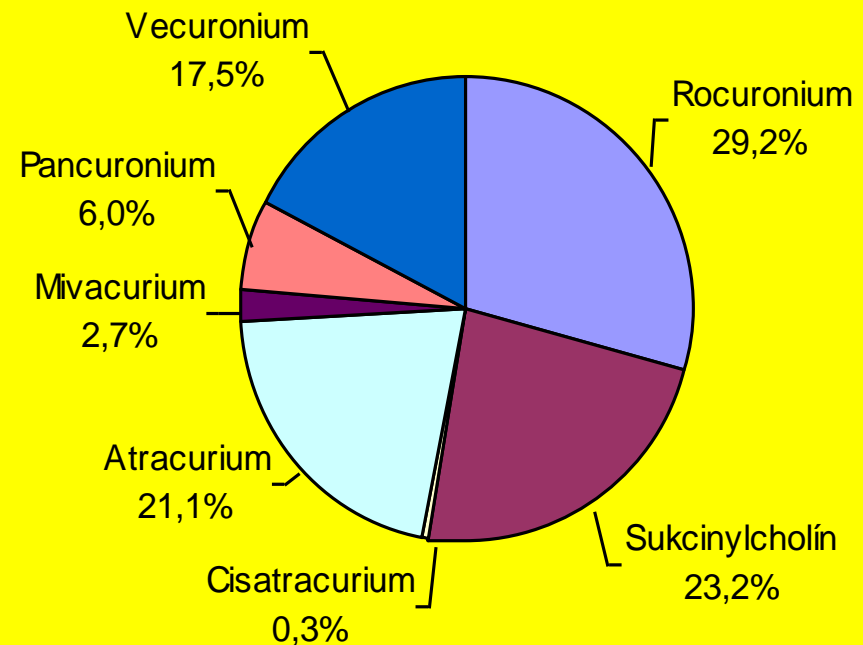
HIV Infection from 1 Unit Blood

Death from New Variant CJD

# ALLERGIC REACTIONS DURING GA



## NMBA & allergy



# RISK FACTORS PONV

What are the warning signs for postoperative nausea and vomiting?



**FEMALE**



**HISTORY OF MOTION  
SICKNESS/POSTOPERATIVE  
NAUSEA AND VOMITING**



**OPIOID THERAPY**



**NONSMOKER**





# Anesthesia Patient Safety Foundation



- <http://www.apsf.org/>

- **Mission Statement**

The mission of the Anesthesia Patient Safety Foundation is to ensure that **no patient shall be harmed by anesthesia.**

The purposes of APSF are to: foster investigations that will provide a **better understanding of preventable** anesthetic injuries; encourage programs that will reduce the number of anesthetic injuries; and promote national and international communication of information and ideas about the causes and prevention of **anesthetic morbidity and mortality.**