

Jozef Firment, MD PhD

Department of Anaesthesiology & Intensive Care Medicine Šafárik University Faculty of Medicine, Košice

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



ZÁZNAM O ANESTÉZII

I. KAIM, FNLP Košice, Rastislavova 43, pracovisko Trieda SNP č.1, Košice

														1100.200		
PRIEZVISKO, MENO								Rodné číslo				Poisť.	Por.č.			
Bydlisko						Sála výkonu Nákladové stredisko					1					
Diagnóza				МК	СН			Výkon					ĽP			
PREDANE ST	PREDANE STETICKÉ VYŠETRENIE ASA 1 2 3 4 5 E															
Ochorenie	A	N	Iné údaje		А	Ν	Vys	setrenia	A	Ν	LABO	RATORNI	E VYSETR	ENIA		
ICHS	Т		Predošlá anestézia				Inte	rné	Τ		Hb/HTK		Urea			
AP / IM			Anest, komplikácie	1			Peo	liatrické			Leu		Kreatinin			

Dysrytmia		Lieky dlhodobo		EKG			Tr		Bilirubin			
A. hyperten zia		Zubná protéza		ЕСНО			PT / INR		AST/ALT			
Astma		Fajčenie		RTG hrud.			APTT		Hmotn.			
СНОРСН		Alkohol		Spirom etria			Fibrinog.		Výška			
Neurol. choroba		Návykové látky		ORL			Na		ΤK			
DM / PGT		Trizmus pokáve		Obtiažna intub.			К		PF			
Koagulopatia		Malig.hypert.van am .		Žily prístupné			Glykémia		TT			
Hepatopatia		ALERGIA						SGA	А	в	С	
Nefropatia									ABORh			

PREMEDIKÁCIA



PREDANE STETICKÁ PRÍPRAVA:

(para)	and	A)	an		
	P)	O		$\overline{)}$
1	2	_ II _	3		4
	DA DA	allar	πραπι		
	Prípra Ordina	iva S oveni	ZP pred a	nestézi Vykon	ou Iané
			lde ntifikáci:	a mena	
		adna	i špec. prip	rava	_
		rvná.	skupina		н
	H	bjedi L	hať krv		н
	H	D	nhav		н
	H	none.	pryny		н
	H	• Nel ino artin	vin		н
	H	itukér	nia		н
	H	тукст тики	5		н
	⊢H⊧	KG	`		н
	H	TG			н
		MIA			н
	H	andá	ž DK		н
	H	bčou	ý katéter		н
	⊢ ⊢ P	rofyla	, ixia trombó	zy	н
		ТВ р	rofylaxia		н
		reme	dikácia		
	o	znač	enie strany	r	
	0	holiť	op.pole		
	P	ouäť	o VAS		
	Z	ubná	protéza		Ц
	0	kulia	re		Ц
	N	aslúo	had apará	t	
	Dátun	n, das	s a podpis s	sestry:	

Corper some	() () sauchith							- 11	(100) (100)				-1980 0.4d			
Education Patriciansis									Presson by							
Cancella in		-	-	where p	renta			-	1.07	1, 111						
	-					-		Trans.			-	1	-			
ELIN 1 SWY	8.04 J	hand last			WYTER ST	(Hite)	_	140,01	11-41 h		114	11				
			1.1											01 - L		
calles prosen	Disc	and 1	CALD HE		and 1	ing 1	97 L 4	. 1	no I	a. 1	-		Canal of	Mar 1		Number of the
	Cat		-	-			-		-	-	-	-			-	-
255	- 511			1.00				100						\rightarrow		
OWNO:	114	1111	1 11	1.0	112	1 1	101	17.5	1.1	11.1	111	111	111	110		1114 4 10 10
	1,548	10.11	1.1.1.	1.11	1.1.1	100		1.1.1	1.1	1.1.1		1.11		11.1		1000
	121	1111		1.1				1.1	11			11		1.1	11	Diants
	1.2.1			a de la deservation de la de		-			1.1			de la		-		1.000
	141	****	1.1.1	1.0	1.01	1 1 1	1.1	100				10	1.1	100		· · · · · · · · · · · ·
	101	2017	1 2 2		100	111	1	100	10	11-	117	15	10	100		STRATY 2
	1.14	13 1	1.1.1	1.1	1.1.1	1.1.1		1.1.	11	111	111	11	111	100	1.1	1000
_	1111	dia di	-	1.1	1.5	1 1	111	1.1	1.1	1		12		1.1.1	1.1	-
Property of	100	144	+ ++	1.1		111	111		11			14	11	11		COLUMN T
and the second se	1	100	111		1.1	111	10		1		11	16		111		TINGS .
1.	12	1111	111	101	121		10		11			11		1.2		
	. 95	10.11	1.1.1	100	1.0	3 4 3	111		1.1	111		17		110		eyest here:
	82.1	11.1		1.1		244	114		-			-bi-	14	144		
100.000	11	1111	1111	1.1	1.1	111						-l-l-				P.4
TWO adds				1.1												Conception 1
Contribut	11	2010	111			111	-			1	-1-1-	11		10		
Automation -	0.1	1111	1.1.1	100	1.0	37			5.7	100	111	1113		100	15.1	
2.1000		7.1 7		1.1			111		11			14		1.1	11.	100-1103-004
NOTANTI	19910	-	+++++	100			+++	1444		-i-i-	-++}-	14.				
States, 1 Dross	1011		-													
La rejuin		1111		111		1111		111	11			11		111		
and MAY VIV	10.00	1.1.1.1	1.1.1		1.1											
	-		1.1.1	- dalla				1.1.1	-		-	-1-1-		1.4		
	-			1.1	1.1.1				10	-1-1-		14		11	11	
-	-		-					-								-
		131	1111	1.1	1.3	3 1 3			11	1.1.1	110	1.1.1		1.1.2	1.5	
_	-	1.0	1.1.1.1	1.1	1.0	110	111	1.1	1		1.1	10.	111	110		-
	-	2.2	1 1 1	1.1	1.5	1.11	111	1.1	1.0	1.1	1.1	2.5	111	4.5	112	-
	-			1	1.00		1.1	100	11	100		10		111		
OMPACER	_		-			10	OTHER D	050.07	KOR.		-	-				
CONTRACTOR						14	dnali	basar	8236							
hourstan						n bev en	100	-					in.	1.100		attangs t
SIM		1.00	L		COASC .	ISTUVOS	THAT	9003/A	et all	08.						
INCESS	114-000	da Min	- 24		-											
No velocere	4,00	184	441	180	-											
distances in	1.000	1946	1.646	180												
Conformation 1	10.000	100*	344	1,017												
1111000	-															
¥0;				. 1												
ψ0- IK		-		1 	-					14			-		0.05.5.2	

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 prob	olems
			(% mortality 0,1)
•	Class 2	Mild systemic disease	(% mortality 0,2)
•	Class 3	Severe systemic disease, but no	ot
		incapacitating	(% mortality 1,8)
•	Class 4	Severe systemic disease that is	a (% mortality 7.8)
_		Mariburd not expected to live C	
•	Class 5	irrespective of operation	4 nours
			(% mortality 9,4)

- An E is added to the status number to designate an emergency operation.
 1% mortality 1,5-2x
- An organ donor is usually designate as Class 6

Saklad 1941, Anesthesiology 1963, 24, 111, Dripps 1961, Aitkenhead 1996 (Marx 1973)

INSTRUCTIONS

- Preoperative drinking
 -2-4-6 hours
- Sleeping
- Mediacation
- Prostheses

Regurgitation of stomach content under general anesthesia



Sotonye Fyneface-Ogan (2012). Anesthesia for Cesarean Section, Cesarean Delivery, Dr. Raed Salim (Ed.), http://www.intechopen.com/books/cesareandelivery/anaesthesia-for-cesarean-delivery

GASTRIC EMPTYING



Mendelson's sy Clear fluids <200 ml, > 2 h Solid food > 6 h

11

Gastric emptying curve after light breakfast (gamma camera T50)



Søreide E et al: Pre-operative fasting guidelines: an update. Acta Anaesthesiol Scand 2005, 49, 1041-1047.

NEXT ACTIVITIES

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

PREMEDICATION

Aims:

- Sedation
- Analgesia
- (Anticholinergic)
- (\downarrow 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 Date of birth Site		Number Procedure	
Check patient risk factors (if yes – circle and annotate)		Check resources	Present and functioning
ASA 1 2 3 4 5 E		<u>A</u> irway – Masks – Airways – Laryngoscopes (working) – Tubes – Bougies	
Airway (Mallampati classification)		Breathing – Leaks (a fresh gas flow of 300 ml/min maintains a pressure of >30 cm H ₂ O) – Soda lime (colour, if present) – Circle system (two-bag test, if present)*	
Aspiration risk?	No	su <u>C</u> tion	
Allergies Abnormal investigations?	No	Drugs and devices - 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	
Medications?	No	Emergency	
co-Morbidities?	No	- Assistant - Adrenaline - Suxamethonium - Self-inflating bag Tilting table	

The lowest acceptable Hb & Htc levels

http://www.ianestesi.se/	Hb	Htk	
"Young & healthy"			
Children/adolescents,	70 g/l	20 %	Sverige
ASA 1	7 g/100 ml	"	Norge
in optimal conditions	4,3 mmol/l	"	Danmark
"Elder"			
Middle age,	90 g/l	27 %	Sverige
ASA 2	9 g/100 ml	"	Norge
and healthy old people	5,6 mmol/l	II.	Danmark
"Cardiacs"			
Cardiovascular and lung	110 g/l	33 %	Sverige
diseases,	11 g/100 ml	"	Norge
ASA 3-4	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%
 Superficial surgery 	 Intraperitoneal: splenectomy, hiatal hernia 	 Aortic and major vascular surgery
∗ Breast	repair, cholecystectomy	 Open lower limb revascularization or
+ Dental	 Carotid symptomatic (CEA or CAS) 	amputation or thromboembolectomy
 Endocrine: thyroid 	 Peripheral arterial angioplasty 	 Duodeno-pancreatic surgery
∗ Eye	 Endovascular aneurysm repair 	 Liver resection, bile duct surgery
 Reconstructive 	 Head and neck surgery 	 Oesophagectomy
 Carotid asymptomatic (CEA or CAS) 	 Neurological or orthopaedic: major (hip 	 Repair of perforated bowel
 Gynaecology: minor 	and spine surgery)	 Adrenal resection
 Orthopaedic: minor (meniscectomy) 	 Urological or gynaecological: major 	 Total cystectomy
 Urological: minor (transurethral resection 	 Renal transplant 	 Pneumonectomy
of the prostate)	 Intra-thoracic: non-major 	 Pulmonary or liver transplant

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.								



ALLERGIC REACTIONS DURING GA



Allergic reactions occuring during anaesthsia. EJA 2002, 19, 240-262

RISK FACTORS PONV





SURGICAL SAFETY CHECKLIST (FIRST EDITION)

SIGN IN

- PATIENT HAS CONFIRMED
 - + IDENTITY
 - + SITE
 - * PROCEDURE
 - + CONSENT

SITE MARKED/NOT APPLICABLE

- ANAESTHESIA SAFETY CHECK COMPLETED
- PULSE OXIMETER ON PATIENT AND FUNCTIONING

DOES PATIENT HAVE A:



- NO NO
- YES

DIFFICULT AIRWAY/A SPIRATION RISK?

- NO
- YES, AND EQUIPMENT/ASSISTANCE AVAILABLE

RISK OF > 500ML BLOOD LOSS (7ML/KG IN CHILDREN)?

- NO
- YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED

TIME OUT

- CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEM SELVES BY NAME AND ROLE
- SURGEON, ANA ESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM
 - + PATIENT
 - SПЕ.
 - + PROCEDURE

ANTICIPATED CRITICAL EVENTS

- SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?
- ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS?
- 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?

- YES
- NOT APPLICABLE

IS ESSENTIAL IM AGING DISPLAYED?

- YES
- NOT APPLICABLE

SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE TEAM:

- THE NAME OF THE PROCEDURE RECORDED
- THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)
- HOW THE SPECIMEN IS LABELLED (IN CLU DING PATIENT NAME)
- WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE AD DRESSED
- SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. AD DITIONS AND MODIFICATIONS TO FIT LOCAL PRACTICE ARE ENCOURAGED.

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**.