Peri-operative care

- Preoperative assessment and preparation
- Post operative care

Pre-operative Assessment and Preparation (A&P)

“medical fitness”

“ medical clearance!! “

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:Symposium topics

- **Introduction : effects of GA**
- **Pre-operative ; general Assessment and preparations**
- **Special conditions**
- **Post operative ca**

:Symposium topics

- **Introduction : effects of GA**
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Two so important points:

- Pre-op **planning** is crucial
- Mis**communication** → mis-understandings → inappropriate care

the **most common** cause of anesthetic complications is

The inadequate **preoperative** assessment and planning.

Is this operation really indicated ??

e.g. tonsillectomy

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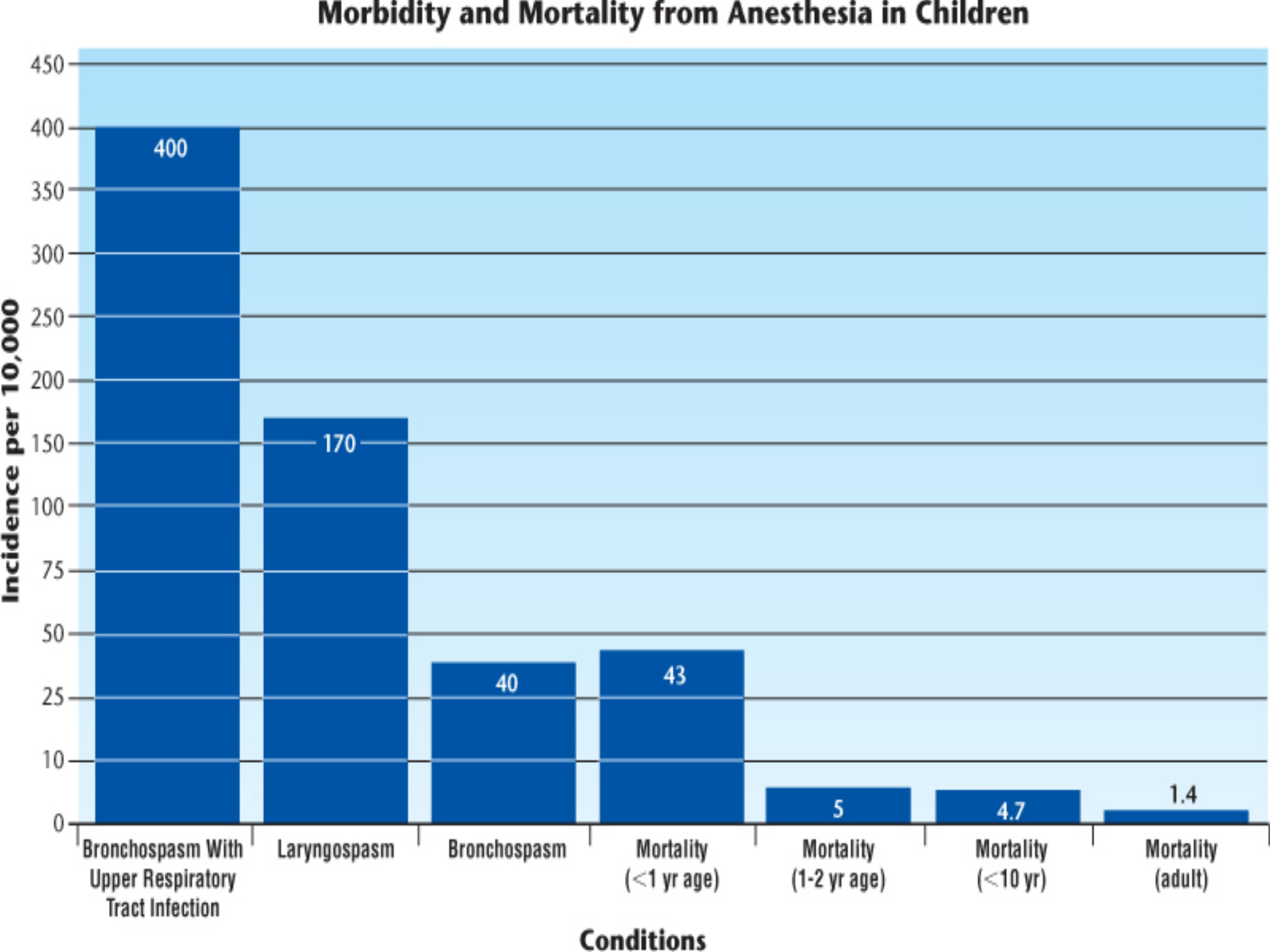
It is a real problem !!

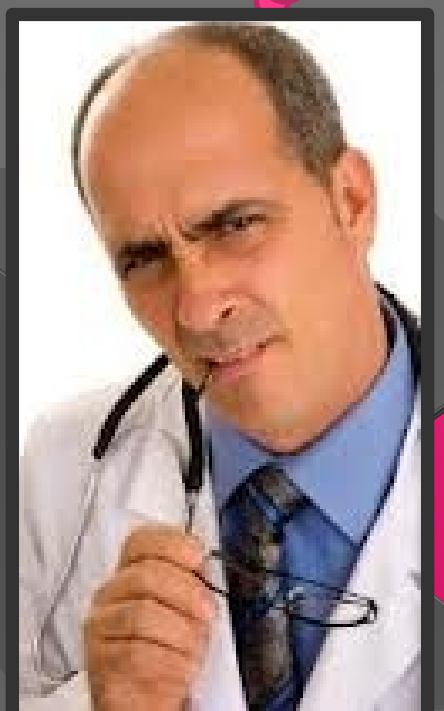
..Dr. faisal


Morbidity and Mortality from Anesthesia in Children
Incidence per 10,000
450
400
350
300
250
200
150
100
75
50
25
10
0
400
170
40
43
5
4.7
1.4
Bronchospasm With Upper Respiratory Tract Infection
Laryngospasm
Bronchospasm
Mortality (<1 yr age)
Mortality (1-2 yr age)
Mortality (<10 yr)
Mortality (adult)
Conditions

Pre-operative A & P

Think !!

Is the function of ..... ?



Two parts

1. general
2. special

Methods of **assessment**

1. History and examination
2. Investigations
3. Consultations
4. ASA Classification
5. 3 decisions ,Realistic proposes (Un-avoidable problems) and the best practice .

- pre-op **preparations**:

1. Pre-operative **preparation**(general) and **Pre-medications** .
2. Informed **Consent** .
3. **Documentations** .
4. **Ethical** issues

I. History (COMP FREE)

- 1. **C**urrent problem (see later)
- 2. **O**ther known problems(e.g. Dental condition (loose or cracked teeth, see later)
- 3. **M**edication history

  Allergies(latex, iodine,...), Drug intolerances, Present therapy (Prescription &Nonprescription), Non-therapeutic (Alcohol, &Tobacco), Illicit
- 4. **P**revious anesthetics, operations, and, if applicable, obstetric history and pain history
- 5. **F**amily history(complications with op.).

;l. History; cont

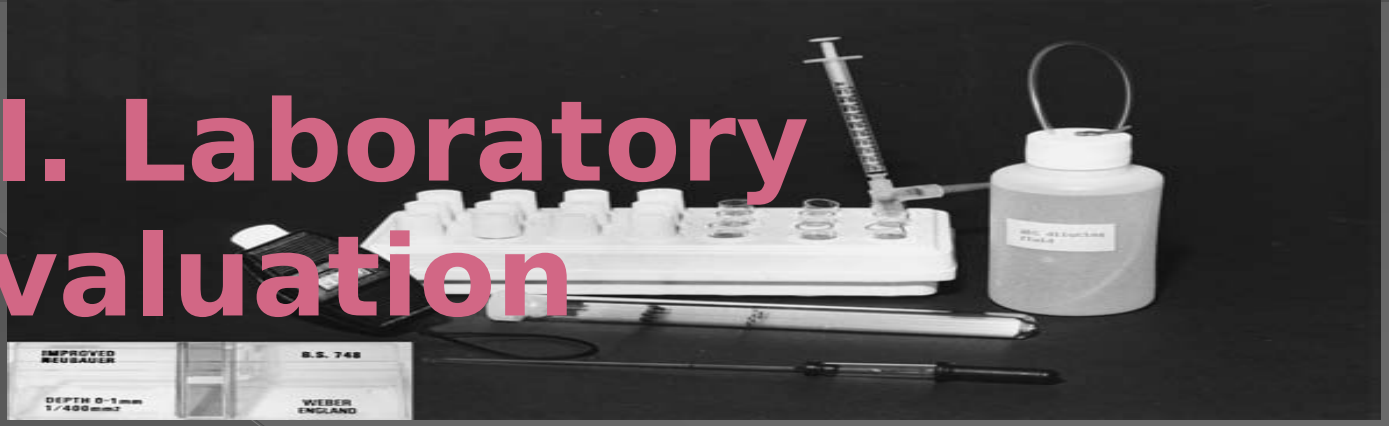
- 6. **R**eview of organ systems
  - General (including activity level)
  - Respiratory, Cardiovascular, Hematological, Neuro-Muscular, and Endocrine,
- 7. Last oral intake(**E**ating /drinking)

II. Physical examination

1. Vital signs (stability) = four or five !! and general Ex.(dysmorphism)
   Including anthropometric meas. On app.chart
2. Airway (difficult ETI =LEMON Law)
3. Heart
4. Lungs
5. Extremities
6. Neurological Ex.

- **Crucial for pre-op anesthetic plan**

III. Laboratory evaluation



- **Routine** (or basic) lab ?
  - No routine in **healthy well-followed** child **!!**
- **Special** conditions

Hb For :susp.anemia, <6months ,ch. Illness , or no routine test

Grouping and cross.m: potential of B.trans. need

bleeding profile : potential risk of intra operative bleeding (bleeding Hx, type of op. ..)

Viral markers ?: potential of B .trans, or intra op.T

RFT, LFT, SE, RBS, CXR, UA ,pregnancy t., pul.FT…..
When clinically indicated

III. Laboratory evaluation

- **Therefore** when there are no ***routine follow*** up of ***well child*** these laboratory evaluation may considered as routine (**even though –scientifically- no routine tests approved**)
- **Hb (**CBC?**), Grouping and cross-matching , bleeding profile, viral markers and some times CXR .**

iv. Consultatio ☻

- Medical specialist (internist/pediatrician) & Anesthesiologist
- Pulmonologist
- Cardiologist
- Endocrinologist
- Nephrologist
- Hematologist
- E.T.C. …..

Any difficult

You must consult

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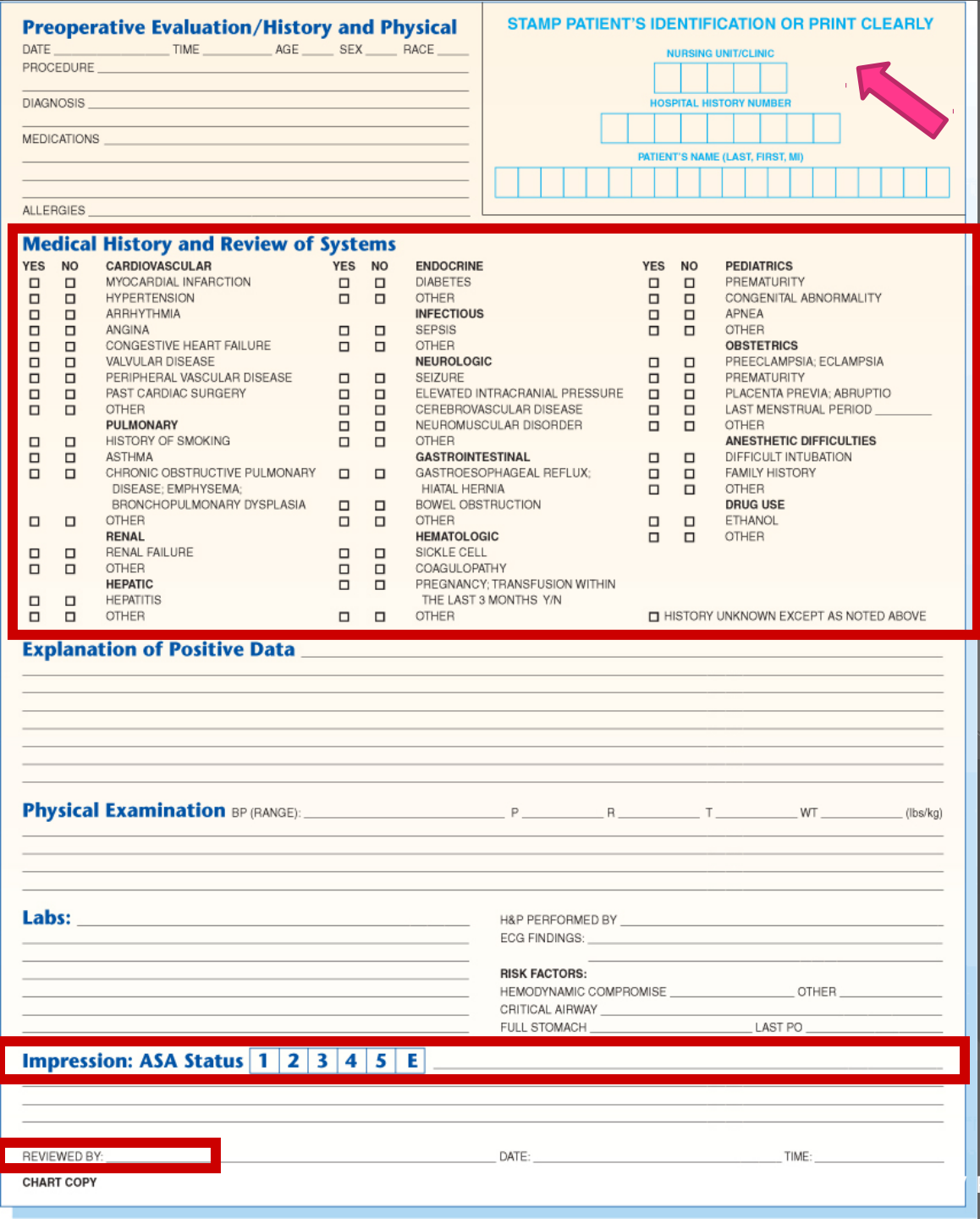

Preoperative Evaluation/History and Physical

DATE _____ TIME _____ AGE ____ SEX ____ RACE ____

PROCEDURE _____

DIAGNOSIS _____

MEDICATIONS _____

ALLERGIES _____

STAMP PATIENT'S IDENTIFICATION OR PRINT CLEARLY

NURSING UNIT/CLINIC

HOSPITAL HISTORY NUMBER

PATIENT'S NAME (LAST, FIRST, MI)

Medical History and Review of Systems

YES	NO	CARDIOVASCULAR
☐	☐	MYOCARDIAL INFARCTION
☐	☐	HYPERTENSION
☐	☐	ARRHYTHMIA
☐	☐	ANGINA
☐	☐	CONGESTIVE HEART FAILURE
☐	☐	VALVULAR DISEASE
☐	☐	PERIPHERAL VASCULAR DISEASE
☐	☐	PAST CARDIAC SURGERY
☐	☐	OTHER
		PULMONARY
☐	☐	HISTORY OF SMOKING
☐	☐	ASTHMA
☐	☐	CHRONIC OBSTRUCTIVE PULMONARY DISEASE; EMPHYSEMA; BRONCHOPULMONARY DYSPLASIA
☐	☐	OTHER
		RENAL
☐	☐	RENAL FAILURE
☐	☐	OTHER
		HEPATIC
☐	☐	HEPATITIS
☐	☐	OTHER

YES	NO	ENDOCRINE
☐	☐	DIABETES
☐	☐	OTHER
		INFECTIOUS
☐	☐	SEPSIS
☐	☐	OTHER
		NEUROLOGIC
☐	☐	SEIZURE
☐	☐	ELEVATED INTRACRANIAL PRESSURE
☐	☐	CEREBROVASCULAR DISEASE
☐	☐	NEUROMUSCULAR DISORDER
☐	☐	OTHER
		GASTROINTESTINAL
☐	☐	GASTROESOPHAGEAL REFLUX; HIATAL HERNIA
☐	☐	BOWEL OBSTRUCTION
☐	☐	OTHER
		HEMATOLOGIC
☐	☐	SICKLE CELL
☐	☐	COAGULOPATHY
☐	☐	PREGNANCY; TRANSFUSION WITHIN THE LAST 3 MONTHS Y/N
☐	☐	OTHER

YES	NO	PEDIATRICS
☐	☐	PREMATURITY
☐	☐	CONGENITAL ABNORMALITY
☐	☐	APNEA
☐	☐	OTHER
		OBSTETRICS
☐	☐	PREECLAMPSIA; ECLAMPSIA
☐	☐	PREMATURITY
☐	☐	PLACENTA PREVIA; ABRUPTIO
☐	☐	LAST MENSTRUAL PERIOD _____
☐	☐	OTHER
		ANESTHETIC DIFFICULTIES
☐	☐	DIFFICULT INTUBATION
☐	☐	FAMILY HISTORY
☐	☐	OTHER
		DRUG USE
☐	☐	ETHANOL
☐	☐	OTHER

☐ HISTORY UNKNOWN EXCEPT AS NOTED ABOVE

Explanation of Positive Data _____

Physical Examination BP (RANGE): _____ P _____ R _____ T _____ WT _____ (lbs/kg)

Labs: _____

H&P PERFORMED BY _____

ECG FINDINGS: _____

RISK FACTORS:

HEMODYNAMIC COMPROMISE _____ OTHER _____

CRITICAL AIRWAY _____

FULL STOMACH _____ LAST PO _____

Impression: ASA Status 1 2 3 4 5 E _____

REVIEWED BY: _____ DATE: _____ TIME: _____

CHART COPY

Example of form for submitting pre-operative evaluation

Box 62-2 Critical Information Frequently Omitted in Pediatric Primary Physician Preanesthetic History and Physical Examinations

Weight
Blood pressure
Room-air oxygen saturation or saturation with baseline oxygen supplementation
Allergies (drugs and latex)
Cardiac murmur history
Previous subspecialty encounters: findings, recommendations, and interventions
Medications
Extent of neuromuscular disease (eg, hypotonia)

As well as reasonable pre-operative **explanation** for the pt and families

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ASA classification of physical state

1. Class 1: **Healthy** patient, no systemic disease
2. Class 2: **Mild** systemic disease with **no** functional limitations (mild chronic renal failure, iron deficiency anemia, mild asthma ,.....)
3. Class 3: Severe systemic disease with **functional limitations** (hypertension, poorly controlled asthma or diabetes, congenital heart disease, cystic fibrosis)
4. Class 4: Severe systemic disease that is a constant **threat** to life (critically and/or acutely ill patients with major systemic disease)
5. Class 5: **Moribund** patients not expected to survive 24 hr, with or without surgery

- Additional classification: “E”—**emergency** surgery

THE DECISION MAKING and Realistic proposes

After complete general & specific assessment

- **Risks vs benefits & conseq.: three decisions**

1. **DO :** No apparent contraindications for GA
2. **Postpone !!**elective operation to :
   treat **curable** disease that may affect the patient adversely e.g. sepsis
   Stabilize **in-curable** disease e.g. asthma
3. **Do with cautions :**
   * Emergency operation for life threatening condition can't postponed
   * Stable in-curable disease

Use the best practice

What we mean by ?? **the best practice**

- **anticipate** the complications.
  (pre, intra, and post operative)
- **Prepare** to deal with expected complications .
- **Preventive** measures - if applicable -.
- Take **high** risk consent – if applicable-.
- Use the **safest** approach/ drug according the underlying condition.

The main Aim

- **healthiest** possible condition **before** surgery

Pre-operative preparation

Did you get the answe ??r

Two steps
(PCP and op. team)

What looks stable at op time could has bad back ground disease with PCP evaluation

General pre-op. Preparations1

1. Adequate **psychosocial** family/patient ***preparation*** by child's **PCP** .
2. The ***informed*** **consent** (or high risk consent)
3. **Guidelines for preoperative fasting (2-4-6-8 rule) table 70-10 nelson 19th**

Oral intake	Time before op (hrs)
Clear, sweet liquids	2
Breast milk	4
Infant formula, fruit juices, gelatin	6
Solid food	8

These are general guidelines and may differ among hospitals.

General pre-op. Preparations 2

- Operation team assessment **at the day of op or** the **day before**

1. **review** the PCP fitness and their recommendations , and check pt/family **understanding** and answer their **queries** .
2. General check up for **new** events
3. Rapid exam …. **Vital** signs (check and record) including pre-op O2 saturation and **involved system** .
4. **communications** between all specialties

Pre-medications

- **No routine** pre-medication but on demand
- Sedation for frightened child
- Antibiotics for SBE prophylaxis ….
- Extra-preparation , chick NPO order
- …etc

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Informed Consen

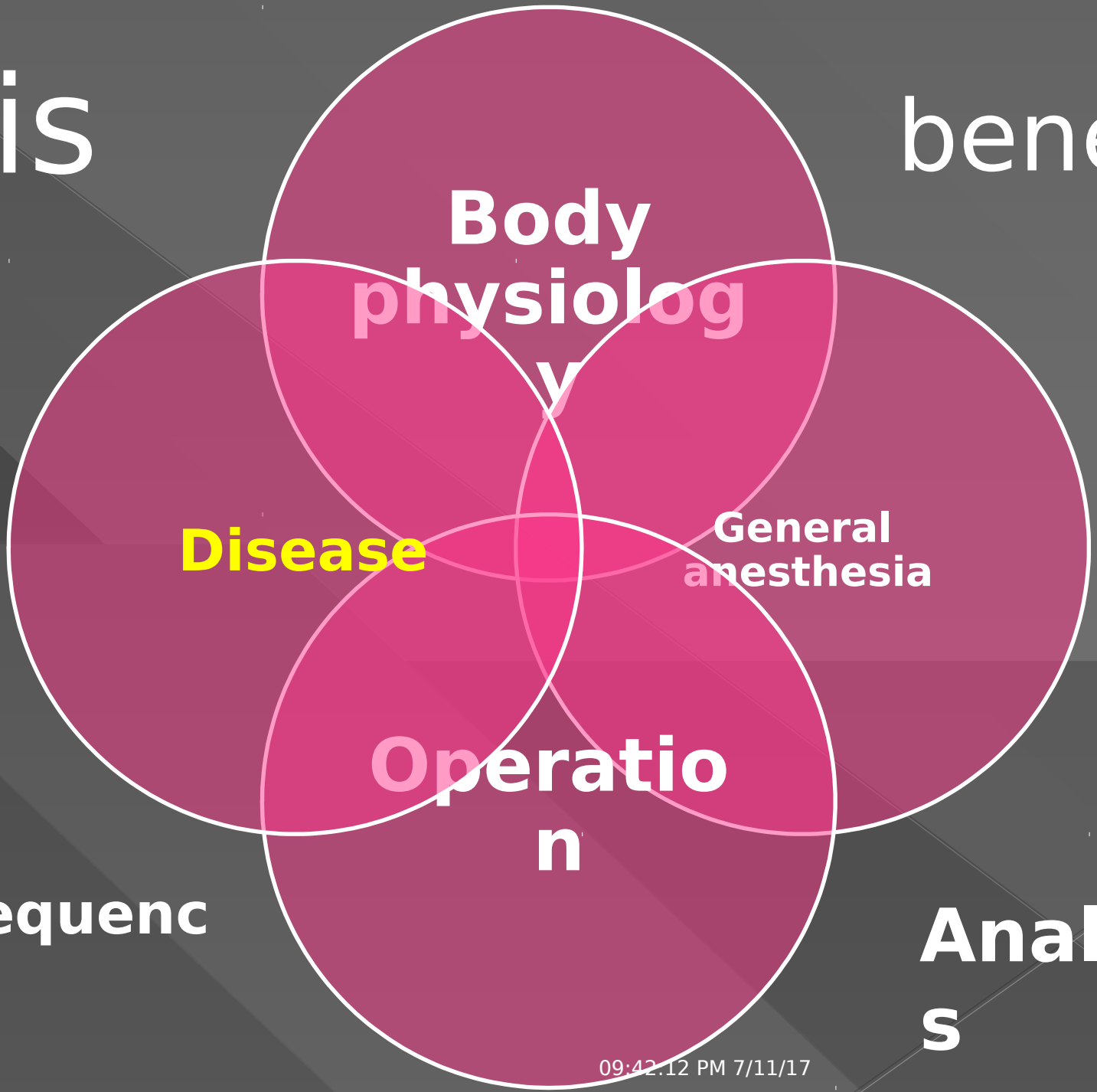
- **Explain** the *procedures* (what &why)and the expected complications , Explain the *alternatives* and their complications and *if not*
- **Discuss** openly :decide with the patient and their family if the **risk/benefit ratio** favors the intervention.
- Check **understanding**
- Give **time** for thinking
- **Read** the consent and explain any jargons
- **Sign** by the competent/authorized person
- **Thanks** and give chance for **fallback** .

Documentation

- Document all stages **at time** - even what seems errors !!- .
- The **complete** file is the best **defense** .
- **Formal** Vs informa
- Ethical issues ....

Risk

benefit



consequences

Analysis

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Obligated to remember these statements

1. A **simple** non-worrisome disease may be **fatal** in the peri-operative pt e.g. URTI.
2. **Mis-communication** □ inappropriate care
3. The relative(or Pt) must **parti pate** in : benefit-risk-consequence decisi
4. Any difficult …. □ … **consult**

Thanks for all

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References

- AAP Textbook of Pediatric Care 2009
- Nelson’s text 19th ed .

Common Outpatient Surgical Procedures

GENERAL SURGERY

Femoral, inguinal, and umbilical herniorrhaphies
Lymph node and other diagnostic biopsies
Central line insertion
Fistulotomy

GENITOURINARY SURGERY

Orchiopexy, hydrocele
Circumcision
Hypospadias repair

OTORHINOLARYNGEAL SURGERY

Myringotomy and tube placement
Adenoidectomy (children >2 yr)
Tonsillectomy (children >3 yr)
Bronchoscopy
Tympanomastoidectomy
Tympanoplasty
Endoscopic sinus surgery
Cochlear implant

OPHTHALMOLOGIC SURGERY

Strabismus
Examination under anesthesia
Cataract
Eyelid repair for ptosis

ORTHOPEDIC SURGERY

Tendon lengthening
Cast changes
Fracture reductions
Arthroscopy

PLASTIC SURGERY

Cleft lip repair
Hand surgery
Rhinoplasty

- أمثلة واقعية
- حلها في المحاضرة القادمة

Practical example 1

- 4year -old –male child present for pre-op evaluation because he will undergo **orchiopexy** , during assessment you find the following : hospital delivery at about **31weeks** gest. age with P/H of **reactive** airway disease and **recently** treated from URTI and improved but still there are **residual** wet coughing and wheezing, O2 saturation on room air is **92**% .
- **What is your decision ? Is he fit for GA??**

Practical example 2

1. 12years **Asthmatic** pt who control his asthma symptoms well by oral theophyline is candidate for tonsillectomy for rec.septic tonsillitis .
   What you must do to prepare the pt for operation ?.
2. **2.**post anesthetics **apnea in PT:** is it serious ?, and from where it originate ? Is it preventable or just monitored ??