



ANESTHESIA & PATIENT SAFETY

“Because to Err is Human”

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What is Patient Safety?

- The absence of the potential for patient harm
- Involves all Health care givers, All job descriptions
- Involves all Departments
- Time frame: 24X7

Anaesthesia today is safer than it has ever been due to advances in pharmacology, technology and more stringent practice standards.

● Anesthesiology is still among the leading disciplines with regard to patient safety.

● The second challenge “*Safe Surgery Saves Lives*” focuses on prevention of complications resulting from surgery.

● Anesthesiologists are involved with the patient safety starting from pre-operative to post-operative period.

Common Causes Of Anaesthesia Related Mishaps

- ❑ **Judgement Errors**
- ❑ **Medication Errors**
- ❑ **Inadequate resuscitation, ventilation , reversal, crisis management , monitoring , post-operative management.**
- ❑ **Technical mishaps.**
- ❑ **Aspiration**
- ❑ **Wrong choice of patients.**
- ❑ **Hypoxic mixture**

Prevention of Mishaps

- **As We all know that “*Prevention Is Better Than Cure*” We need to prevent these critical events.**

- **For this number of steps should be taken to achieve this goal-**
 - **Pre-Anesthetic Preparation**
 - **Vigilance**
 - **Monitoring**
 - **Selection of safer anesthetic and adjuvant drugs.**
 - **Better education and training .**
 - **Quality Assurance**

Pre Anesthetic Preparation

1) Pre-Anaesthetic Check Up-

- ❑ **Pre-operative assessment is one of the top 3 causes of lawsuits for anesthesiologists.**
- ❑ **Good communication between patient and anesthesia provider.**
- ❑ **Thorough evaluation (History, exam, medical illness, treatment etc).**
- ❑ **PAC Chart**

PAC CHART

चाचा नेहरू बाल चिकित्सालय
 गीता कालोनी दिल्ली-110031, (राष्ट्रीय राजधानी क्षेत्र, दिल्ली सरकार)
 CHACHA NEHRU BAL CHIKITSALAYA,
 GEETA COLONY, DELHI-31, GOVT. OF N.C.T. OF DELHI

PAC No.
 DATE

PRE ANAESTHETIC EXAMINATION

NAME	AGE	SEX	WEIGHT	CR NO.	SURGEON
DIAGNOSIS			OPN. PROPOSED		
HISTORY					
Cough + -			Pain Chest + -		Vomiting + -
Expcoctoration + -			Palpitation + -		Diarrhoea + -
Dysphoen Gr. I, II, III, IV			Cyanosis + -		Convulsion
Exercise Tol.: Good Av. Poor			Oedema + -		Fainting + -
Asthma + -			Hypertension + -		Diabetes + -
Smoking + -			Allergy + -		Bleeding disorder + -
Alcohol + -			Neck/Back problem + -		Family H/O bl. dis. + -
Jaundice + -			Pregnancy + -		
Any drug therapy:					
Previous illnesses:					
Previous Anaesth. & Surg + -					
GENERAL EXAMINATION					
Pulse born			Oral Hygeins -		Intubation Dif. + -
B.P. mmHg			Loose teeth +		Airway
R.R. hpm			Absent teeth +		Malnutrition/Obesity Normal
Temp.			Artificial Denture + -		Psych. status—Calm/Apprehensive/Unstable
Paller + -			Jaw Movement		Veins
Clubbing + -			Neck		Any other finding
Jaundice + -			Thytmontal Distance		
Cyanosis + -			Mallampati class		
SYSTEMIC EXAMINATION					
Resp. S.					
C.V.S.					
C.N.S.					
G.I.T.					
Spine					
Hb/PCV	Urine R/M	Albumin Sugar	S. Elect	Blood Gas	
TLC	Bl. Sugar		LFT	-	
DLC	Bl. Urea		Pr. time	APTT-	
ESR	S. Creat.		PFT	TFT-	
X-Ray Chest			ECG	ECHO-	
REMARKS: Including special investigation, Fitness status & problems etc.					
Accepted in ASA Gr. I, II, III, IV, V, F					
INSTRUCTIONS			PRE-ANAESTHETIC ADVICE		
1.			1. Nil orally after	AM/PM on	
2.			2. Blood required	Yes/No. Units	
3.			3. Premedication		
(NAME & SIGNATURE OF THE ANAESTHESIOLOGIST)					
(.....)					

Pre-Operative Safety Check List



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PRE OPERATIVE CHECK LIST

1. Child in OT dress, proper identification band.
2. Nail polish, jewellery removed, long hair tied.
3. Remove the prosthesis and loose teeth.
4. Consent – anaesthesia
 — surgery
5. Preparation of part
6. Drug sensitivity
7. Nil per orally
8. All the relevant investigations and special reports should accompany the patient.
9. Labelling of intravenous cannula
10. Blood to be arranged.

SAFETY CONCERNS OF PATIENT WITH OPERATING ROOM MANAGEMENT-

□ Three Phases Of Checklist: -

SIGN IN - Before Induction Of Anesthesia.

TIME OUT - Before Surgical Incision .

SIGN OUT - Before Patient Leaves Operating Room.

□ Checklist Coordinator single person must be designated and will often be a circulating nurse.

SIGN IN FORM

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CHACHA NEHRU BAL CHIKITSALYA
SIGN IN FORM
(BEFORE INDUCTION OF ANAESTHESIA)



PATIENT NAME:..... AGE/SEX..... C.R. NO:..... DATE:.....

- 1) PATIENT HAS CONFIRMED
 - a) IDENTITY CONFIRMED YES/NO
 - b) SURGICAL SITE (RIGHT/LEFT)
 - c) PROCEDURE (FULL NAME)
 - d) CONSENT : ANESTHESIA : YES /NO , SURGICAL : YES/NO
 - e) LAST MEAL TIME :
- 2) SITE MARKED
 - a) YES/NO
 - b) NOT APPLICABLE
- 3) ANAESTHESIA SAFETY CHECK COMPLETED
 - a) YES
 - b) NO
- 4) ANAESTHESIA EQUIPMENTS/ PULSEOXIMETER FUNCTIONING :
 - a) YES
 - b) NO
- 5) KNOWN ALLERGY
 - a) YES
 - b) NO
- 6) DIFFICULT AIRWAY/ASPIRATION RISK
 - a) NO
 - b) YES , EQUIPMENT & ASSISTANCE AVAILABLE/ NOT AVAILABLE
- 7) RISK OF BLOOD LOSS >10% OF BLOOD VOLUME(APPROXIMATE 8ml/kg)
 - a) NO
 - b) YES , ADEQUATE INTRAVENOUS ACCESS & FLUID PLANNED/NOT
- 8) SURGICAL INSTRUMENTS/ IMPLANTS READY
 - a) YES
 - b) NO

(SIGNATURE OF ANAESTHETIST)

FULL NAME OF ANAESTHETIST.....

DATE & TIME :

SIGN IN –

1) & 2) Confirm Patient Identity, Site, Procedure, and Consent.

By: - Wrist Band

- Site Marking

- Consent should be in easy and understandable language.

3) Anesthesia Safety Check Completed

A) Anesthesia Machine Check List

B) Other equipments Check

C) Drug Check

Anesthesia Machine –

- **Check ventilation equipment –central gas pipeline supply, oxygen cylinders etc.**

Other Equipment – Endotracheal tubes , laryngoscopes, masks, airways, suction, Monitors, Accessory intubations equipment.

Medication Check



- ❑ **Crash Cart should always be ready .**
- ❑ **Drugs should be clearly labeled with strength e.g. :Inj atropine 0.1mg /ml.**
- ❑ **Any time drug is diluted ,label should be changed accordingly.**
- ❑ **LASA-Look alike sound alike drugs should be kept separately.**
- ❑ **High risk drugs should be kept separately**

-
- 4) Pulse Oximetry On Patient- Highly recommended as necessary component of safe anesthesia care by WHO.**
 - 5) Does patient has known allergy**
 - 6) Does patient has difficult airway/aspiration risk –if yes ,then this needs appropriate planning.**
 - 7) Does patient has risk of excessive blood loss.-adequate arrangement of blood and planning for resuscitation can be made.**

AT THIS POINT SIGN IN IS COMPLETED AND TEAM MAY PROCEED FOR ANAESTHESIA INDUCTION.

SIGN OUT & TIME OUT FORM

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**CHACHA NEHRU BAL CHIKITSALYA**

TIME OUT FORM
(BEFORE SKIN INCISION)

PATIENT NAME: AGE/SEX: C.R. NO: TE:

1) CONFIRMED ALL TEAM MEMBERS BY NAME AND ROLE
a) YES
b) NO

2) SURGEONS, ANAESTHETIST, NURSE & TECHNICIAN CONFIRM
a) RIGHT PATIENT
b) RIGHT SITE
c) RIGHT PROCEDURE

3) ANTIBIOTIC, PROPHYLAXIS HAS BEEN GIVEN WITHIN LAST 60 MINUTES.
a) YES
b) NOT APPLICABLE

4) ANTICIPATED CRITICAL EVENTS:
a) SURGEON REVIEWS:
b) ANAESTHESIA TEAM REVIEWS:
c) NURSING TEAM REVIEWS: STERILITY CONFIRMED/NOT

5) ESSENTIAL IMAGING DISPLAYED
a) YES
b) NOT APPLICABLE

SIGN. OF ANESTHETIST) (SIGN. OF SURGEON) (SIGN OF FLOOR NURSE)

SIGN OUT FORM
(BEFORE PATIENT LEAVE OPERATING ROOM)

6) PATIENT NAME & PROCEDURE RECORDED
a) YES
b) NO

7) INSTRUMENTS, SPONGE, GAUZE PIECES & NEEDLE COUNT
a) CORRECT & COMPLETE
b) NO, SPECIFY:

8) SPECIMEN LABELLED
a) YES
b) NO

9) WHETHER THERE ARE ANY EQUIPMENT PROBLEM TO BE ADDRESSED
a) NO
b) YES, SPECIFY:

(SIGNATURE OF SURGEON) (SIGNATURE OF SCRUB NURSE)

FULL NAME: S/N NAME:

DATE & TIME: DATE & TIME:

IN THE OPERATION THEATRE- TIME OUT

Components-

- 1) Confirm all team members have introduced themselves by name and role.**
- 2) Anticipated critical events-e.g. blood loss.**
- 3) Surgeon review – expected duration
Anesthetist review - any specific plan or concerns.
Nursing team review - e.g. sterility issues
equipment issues**
- 4) Has antibiotic prophylaxis been given within the last 60 minutes.**
- 5) Is essential imaging displayed.**

SAFETY DURING ANESTHESIA

- ❑ **Each patient's anaesthesia care should be planned and documented.**
- ❑ **The risks, benefits, and alternatives should be discussed with the patient or his/her attendant.**
- ❑ **The anaesthesia used and anaesthetic technique are written in the patient record.**
- ❑ **Each patient's physiological status during anaesthesia administration should be continuously monitored and written in the patient's record.**

SAFETY DURING ANAESTHESIA

- ❑ **Try to prevent dental injuries ,**
- ❑ **Ocular injuries**
- ❑ **Hypothermia**
- ❑ **Pressure on joints.**
- ❑ **MONITORING- Minimum monitoring standard**
- ❑ **Selection of safer anesthetic agents-initially drug related arrest -37%, now-12%**

VIGILANCE

- ❑ **Minimize factors like fatigue, distraction, boredom that adversely affects vigilance.**
- ❑ **Reluctance to ask for help has no place in Anesthesia.**
- ❑ **Resident trainees should always be supervised by Consultant Anesthetist.**

SIGN OUT

- Patient Name & procedure recorded.
- Instrument, Sponges, gauze pieces, needle count verified.
- Specimen labeled.
- Any equipment problem to be addressed.

OTHER CONCERNS IN O.T.

1)Electrical Hazards.

2)Environmental hazards including chemical dependency.

Electrical Safety-

- **Ignition sources –cautery**
 - **Surgical lights etc.**
- **FUELS- oxygen canula, lubricants etc.**

So One should have Fire Plan and fire extinguishing methods ready.

Environmental Safety-

- **Visitor control policy**
- **Zoning –**
 - a) **Protective zone**
 - b) **Clean Zone**
 - c) **Sterile zone**
 - d) **Disposal zone**
- **Sterilized** and preferably disposable equipments are used.
- **OT carbolization** between each case.
- **Washing** and fumigation weekly.
- **Cleaning of AC ducts** and HEPA filters regularly.
- **Waste gases** scavenging
- **Standard universal precautions**

□ **POST OPERATIVE SAFETY-**

4 CONCERNS:-

- **1) Transportation**
- **2) Monitoring**
- **3) Discharge**
- **4) Patient should be shifted –with oxygen on stretcher with side rails.**
 - **Basic minimum monitoring should be there.**
 - **Well defined discharge criteria should be there.**
 - **Discharge should be written by anesthesiologist**
 - **Pain scoring and pain management should be done.**
 - **Vigilance for post-operative complications.**

EDUCATION AND TRAINING

- **Onsite Training**
- **Teaching Calendar**
- **simulators / mannequins**
- **skill lab.**

QUALITY ASSURANCE

- Documentation
- Clinical Audit
- Peer-Review
- Mortality and morbidity meet
- Key-performance Indicators

DOCUMENT

- I did it, I just forgot to write it down.....
- Would you be able to give a legal account of your care if it is not documented?