

Patient Safety – Are we following the Standards?

Sri Ramajeyam
Om Anandamayi Chaithanyamayi Sathyamayi Parame!

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Patient safety is a new healthcare discipline that emphasizes the *reporting, analysis,* and *prevention of medical error* that often lead to adverse healthcare events.

Patient safety is defined as;

The actions taken by individuals and organizations to protect the health care recipients (patients) from being harmed by the effects of health care services (Treatment provided).

Patient safety in anaesthesia may be modified as follows;

The actions taken by Anaesthesiologists and Hospital administrators to protect the patients from being harmed by the effects of Anaesthesia.

This discussion is a little special as; along with ‘**Patient safety**’ there is an addition of a question “**Are we following the standards?**” So it is a form of self analysis. It is a self-assessment for improving one’s performance with regard to safety.

Therefore, necessarily, the following discussion may involve less of technical matters and incorporate more details about **professional ethics, discipline** and **responsibility**.

As each safety standard is being discussed, we have to ask to ourselves whether we follow that standard strictly. If not followed, the next question must be “Why?”. We shall try to analyse what factors prevent us from following the standards and try sincerely to analyse and eliminate those factors one by one so that in future we shall improve and establish ‘Patient safety’. That is the aim of this discussion.

Millennia ago, Hippocrates recognized the potential for injuries that arise from the well intentioned actions of healers. Greek healers in the 4th Century B.C., drafted the Hippocratic Oath and pledged to "prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone." Since then, the directive *primum non nocere* (“first of all do no harm”) has become a central tenet for contemporary medicine.

In the United States, the public and the medical specialty of anesthesia were shocked in April 1982 by the ABC television program 20/20 entitled *The Deep Sleep*. Presenting accounts of anesthetic accidents, the producers stated that, every year, 6,000 Americans die or suffer brain damage related to these mishaps.

By 1985 the American Society of Anesthesiologists had established the Anesthesia Patient Safety Foundation. The APSF marked the first use of the term "**Patient safety**" in the name of professional reviewing organization.

Likewise in Australia, the Australian Patient Safety Foundation was founded in 1989 for anesthesia error monitoring.

There is a golden statement emphasizing the fact that what ever be the quality of environment in which we work, we can play safe towards the patient.

“There are no safe Anaesthetic drugs or Anaesthetic technique; but there are only safe Anaesthetists.”

Anaesthesia deaths and complications are important because the anaesthetic itself has no intended therapeutic effect. So no degree of damage will be accepted by the patients and their closer ones.

Safety is a never-ending battle that requires continued effort because many forces have the potential to diminish whatever progress is made.

Safety

World authorities on “**Safety**” advocate two questions to be answered for the assessment the standards of safety in any profession. They are;

- Am I **well prepared**?
- Am I **well equipped**? (Do I have everything ready to meet the challenges on my way?).

If any one gives a positive answer for both the questions, possibly the standards of safety are fine with the individual and the institution.

We are all well aware of the quote, “*Eternal vigilance is the price of safety*”.

Constant vigilance is the basis for safety and only on this basis; safety standards are designed and built in every field whether it is medical profession or others.

More so, because anaesthesiology is a field of medicine which interferes with nature to the greatest extent, by modifying the physiology and thereby making the individual exposed to dangers and more prone for accidents. That is why the words “**Eternal Vigilance**” are incorporated in the emblem of Indian Society of anaesthesiologists.

Patient Safety in Anesthesia...A success story

The following dates and incidents clearly denote the changes that had happened over the past 6 decades in anaesthetic practice marching towards a remarkable progress in patient safety.

December 7, 1941

Pearl Harbor.... Lots of casualties. Patient safety routine efforts primarily consist of finger on the pulse, eyes on the chest, observation of skin color. The recently released drug, thiopental, is employed. Some of the soldiers die...of anesthesia. Anesthesia-related death rate reported at 1 in 450.

September 1979 – September 1981 (WAK residency time)

The operating surgeon calmly notes *blood's dark*. WAK's reaction: **BLOOD'S DARK!!!** Dr. Todres says the first 3 things to check for with any problem in the Operating Room is, first airway, then the airway, and finally the airway. So he checks it and finds a disconnect which somehow was not able to be heard with the esophageal stethoscope over the orthopedists' hammers and drills. No oxygen analyzer, no disconnect alarm, no pulse oximeter, no automated blood pressure monitor; by today's standards, no nothing, although we did have manual blood pressure cuffs, EKG machines, and the beginnings of advanced haemodynamic monitoring. WAK's attending were fond of saying "when I was a resident..." followed by some parable of how he managed with no monitors other than his five senses. It seemed like at least once a year at M&M there was discussion about an intraoperative death by undetected disconnect. Anesthesia death rate said to be about 1 in 10,000.

2007.

Cyanosis is virtually never seen by trainees and death by disconnect is now unheard of. Gas analyzers, pulse oximetry, end-tidal CO₂, easily balanced pressure monitors, idiot proof machines and more are part of the modern anesthesia tool box. Anesthesia death rate in healthy patients thought to be about one in 200,000. Indeed a remarkable progress.

The Anesthesia Patient Safety Foundation was formed September 30, 1985, by Ellison Pierce with the help of many others. The efforts of the APSF have produced this remarkable transformation in the patient care environment which arose initially in the operating room, and now is spreading to general medical/surgical/pediatric floors, emergency departments, and intensive care units.

The accomplishments of the specialty of anesthesiology in advancing patient safety have been so successful that it has been emulated by other medical specialties and the patient safety movement has morphed into a multidisciplinary national safety patient foundation which will undoubtedly address many of the patient safety issues that are now recognized as widespread outside of operating rooms. Indeed, the notion of patient safety started by these visionaries has now infected the culture of medicine and it is now the buzz word of quality improvement programs everywhere.

In modern medical practice and particularly within the hospital environment, the top priority is to assure patient safety with optimum outcome. Anesthesiologists, among practitioners, tend to be the most risk-oriented and interested physicians in addressing patient safety issues because anesthesia specialty has a highly organized training, patient

risk assessment scale, high patient monitoring standards and a patient safety foundation. Nowadays, in spite of the tremendously increased complexity in patient's condition and procedures, anesthesia is safely administered to severely ill patients, morbidly obese, extremely aged and few hours old.

The anaesthesia specialty has focused on the safety of the patient and examination of untoward outcomes. Serious injuries are now rare in medically advanced countries.

Many efforts are believed to have contributed to improvements in the safety of anaesthesia: improved training of anaesthesia clinicians, new pharmaceuticals, new technologies for monitoring (especially pulse oximetry and capnography), and standards for monitoring and other aspects of anaesthesia care, safety enhancements in anaesthesia equipments.

Patient safety Plan

As discussed in the beginning, Patient safety as per definition is the actions undertaken by individuals and organizations to protect health care recipients from being harmed by the effects of health care services.

Safety does not reside in a person, device or department, but emerges from the interactions of the components of a system.

Adverse events in anaesthesia can be related to;

- Surgery and anesthesia (e.g. wrong patient, wrong body part, foreign objects left during the procedure).
- Medical devices (e.g. contaminated or unsafe injection).
- Medication (e.g. wrong drug, wrong dose, wrong patient, wrong route or unjustified prescription).
- Unsafe blood or blood product transfusion, patient care (e.g. health care-associated infections, post operative deep vein thrombosis).
- Labour and delivery (e.g. birth and obstetric trauma).
- Environmental issues (e.g. exposure to radiation, burns, electric shock, falls)

The patient safety plan must provide a systematic, coordinated and continuous approach to the reduction of medical errors. It must create a '*safety culture*' within the health care institute in the form of stopping assigning faults to individuals and must foster the attitude that mistakes are a chance to learn and improve care. So that patient safety becomes part of the performance assessment.

All adverse events are identified due to five major causes:-

1. Errors caused by flaws in equipment design

For an example of automation error is an infusion pump free-flow that causes an overdose. However, such incidents can be significantly reduced when safety controls, such as regular monitoring by workers, are put in place.

2. Failure in communication

It may be failure of communication among staff or among different departments and hospitals; Complex organizations need information systems that provide smooth communication within and among medical teams. Lack of communication may arise from insufficient discussion of cases at shift change, or a failure of staff in different departments to coordinate clinical care.

3. Staff shortages

Shortage of staff may result in stress and fatigue and leading to lapses in performance.

4. Error-prone environments

Complexity of health care organizations makes them error-prone environments. Studies show that intensive care, a very complex environment, has an even greater concentration of adverse events. Heavy workloads, inadequate staffing, and limited access to vital equipment are also work-environment factors that can lead to mishaps.

5. Punitive organizational cultures

Punitive organizational cultures discourage people from reporting adverse events and learning from experience because of fear of punishment. A none-punitive incidence report system, where any incident if not reported will be subjected to a heavy disciplinary action must be developed. Preventing adverse events requires understanding how they happen and making improvements in the above mentioned areas.

Patient Education

- Hospital staff shall be committed in assisting the patient and/or his/her guardian in gaining the knowledge and skills needed to meet the patient's ongoing health care needs.
- Patient and family education should occur in each site providing care and should be provided including anesthesia practice to facilitate the understanding of their health care status and health care options and to participate in decision making.
- Patient information on anesthesia expectation increases patient ability to cope with post operative pain, sore throat or any post operative reaction.
- Usually the patient is poorly informed with regard to anesthesia and post operative care, unless he/she went through a previous surgery and not always a pleasant experience can be remembered.

- Providing a comprehensive patient education process about anesthesia is considered by some anesthesiologists to be time-consuming. Furthermore, the anesthesiologist may delegate this task to a junior staff member with limited experience, or the anesthesiologist assigned for performing the education to the patient.
- If the anaesthesiologist who is actually going to perform the anesthesia on the operation day is doing this communication and gains the patient's trust makes a big difference. It is not the same as the other.
- Communicating such information, including minor post operative complaints and eventual name of the performing colleague, makes a big difference to an anxious patient visiting the surgical theater for the first time in his / her life and premedicated with all scandalous history and mystery of the operating room.

Anesthetist Performance

- The Committee on quality of health care in America asserted "Anesthesia is an area in which very impressive improvement in safety has been made".
- This outstanding anesthesiological performance model and patient safety orientation are not coming from scratch. These are the result of hard work and sacrifice of pioneer anesthesiologists all over the world, and they worked hard in establishing associations and societies which help the new generations to achieve this goal, not to forget the effort of the World federation of Anesthesia WFA effort through the educational Initiative.

System Approach

- As an error-free human being is impossible to be engineered, it is possible to change the conditions under which humans work. Therefore the requirements are that each anesthesia department adjusts its system to make patient safety a priority.
- Some minor changes within our high risk area, as separating high electrolytes concentrate from the normal shelves avoid a catastrophic outcome by mistaken administration.
- Proper labeling of anesthesia medication, critical review to medication safety, standardization of abbreviation, to use and not to use list, care for verbal or telephone order, read back process, documented inter-departmental endorsement of patient, a reliable scoring system (Aderlet score) to discharge patient from recovery room, safety guidelines for conscious sedation in remote areas,
- With the expanding duty of the anesthesiologist out side the operating room to provide services in remote area, the same standards of care and patient monitoring must be implemented.

The anaesthetists' contribution

- Even after careful selection and training, there is the need for continuing education.
- Surveys of mortality and morbidity often reveal the poor assessments and inadequate treatment or resuscitation of the patient before surgery.
- Delegation to a junior colleague or assistant may be inappropriate.

- Regular audit, morbidity and mortality meetings contribute to safe anaesthesia.
- Stylized training is useful for infrequent but particularly hazardous situations, for example, difficult or failed intubation, cardiac arrest, unexpected cyanosis, anaphylaxis, and malignant hyperpyrexia.
- As with pilots, computer based simulators have been developed. The use of artificial intelligence in patient's management; and here sophisticated simulators complete with mannequin, anaesthetic machine and monitors.
- However there is little formal assessment of practical skills in anaesthesia, neither of trainees nor their trainers.
- The anaesthetist works in a complex environment and behavior will be influenced by some factors that are out of the anaesthetist's control, such as climate, economy and even architecture.
- The provision of a safe environment depends in part on hospital administrators, although advised by the professionals. Any compromise in this has to be strongly condemned.
- The anaesthetist needs to prepare for the unexpected and be alert. *Common sense says a reasonable amount of sleep and rests is necessary before taking a patient's life into his hands. This is a legal requirement in New York State.* Sleep deprivation causes mood changes, but functional impairment is not always apparent. But the relatively easy tasks that are so important to the safety of anaesthesia require a high-level of personal arousal to perform well.
- All anaesthetists should have skilled assistants. At least 14 of the deaths of CEPOD (Confidential enquiry into perioperative deaths) involved an anaesthetist without such help.
- All anaesthetists however experienced and however accident free should be humble enough to recognize that they may make mistakes at any time. *These errors may be in techniques, judgments or failure of vigilance.* With attention to details, it should be possible to prevent the minor error turning to a disaster.
- No anaesthetist (particularly a trainee) should be persuaded to treat a patient beyond his capabilities.
- The anaesthetist must understand the working of all the equipments, and be satisfied that it has been properly maintained.
- Both equipments and drugs must be checked before use.
- Accidental disconnection of parts of the breathing system is an ever-present hazard. Ill-fitting tapers should be discarded. Even minor leaks can have serious consequences. Some safety features are incorporated in modern anaesthetic machines: inability to deliver hypoxic gas mixtures, limits on carbon dioxide flow, built-in monitors.
- In the future, features such as digital control of gas flows and vaporizers, self-checks and servo control of vapour concentrations within a circle may provide additional safety. But correct usage of such equipment will always be crucial.
- The safety of electrical equipment is governed BS5724-1 (1979) and by international electro technical commission.

- The anaesthetist must be satisfied that the drug to be injected into a patient is the one intended and prepared at the correct dilution. Adverse reactions should be reported to the committee on safety of medicines.
- Many efforts are believed to have contributed to improvements in the safety of anaesthesia: improved training of anaesthesia clinicians, new pharmaceuticals, new technologies for monitoring (especially pulse oximetry and capnography), standards for monitoring and other aspects of anaesthesia care, safety enhancements in anaesthesia equipment
- New drugs require special vigilance and are noted by an inverted black triangle in the British national formulary for and MIMS.

Monitoring

- A few doubt the contribution that monitoring has made to safer anaesthesia.
- Many countries have introduced minimum standards of monitoring. These usually include *the continuous presence of an anaesthetist in the theatre* or briefly in the anaesthetic room here the intervening door is open and monitors of anaesthetic machine (oxygen failure alarm; inspired oxygen concentration; ventilator disconnect alarm), and of the patient (circulation-ECG, pulse, BP, respiration-bag movement, capnography; pulse-oximetry; temperature; neuro-muscular transmission).
- *The Anaesthesia Patient Safety Foundation's alarm summit in 2004 emphasized that the variable-pitch pulse oximeter tone and the capnography auditory alarm must be on and audible if they are to prevent adverse patient incidents.*
- *Recognizing the unique alerting ability of the auditory modality, several researchers have suggested that the advantages of the continuous variable-tone pulse oximetry signal could be extended to other vital signs.*
- Failures of tracheal intubation or ventilation of paralysed patients are common problems, and the requirement for capnography and oximetry will be strengthened.
- The Harvard group found no major preventable intraoperative injury in the three years after instituting minimal monitoring standards. Such standards are legally enforced in certain states and have led to some reductions in malpractice insurance premiums in the U. S. A.
- An analysis of closed insurance claims in the USA over 15 years concluded that additional monitors, especially capnography and pulse oximetry, would have prevented 31.5% of the accidents. Critical incidence studies have yielded the similar conclusions.
- Time and motion studies of anaesthetist in the operating theatre reveal much time is not spent observing the patient, and an implicit reliance on monitors and their alarms only.
- The judgment of the anaesthetist is most important. Anaesthetist must know the limitations of the monitors, set appropriate alarm limits, know how that they are working correctly and be able to interpret the data.
- An excessive number of monitors may lead to distractions, complacency and a blind adherence to standards.
- Alarms frequently sound and that is in fact no danger to the patient. There is much room for the improvement in the integrated display of data and alarm states from various monitors so that unimportant information is suppressed. Standards are being drawn at for auditory and visual alarms.

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‘Provide good care with very few monitors’

‘More monitoring, however does not necessarily lead to better care’

‘No monitor can ever replace a human being as he has the 6th sense.’

‘The focus of attention for greater part of the time should be on the patient and the operation, not on monitors.’

- Wendell C. Stevens

Similarly, there are no golden standards for safety. There are guidelines formulated by various bodies like Association of Anaesthetists of Great Britain and Ireland, Association of Anaesthetists of Australia, Indian society of Anesthesiologists, which again set certain protocols to be followed for ensuring safety for the patient.

Internationally approved 10 golden rules for safe Anaesthetic practice are still discussed all over the world.

Ten Golden rules of Anaesthesia

- Assess the patient and Prepare the patient well
- Starve him - even for Local Anaesthesia
- Anaesthetise him on a tipping table for head down tile in case of emergency.
- Check your drugs and equipments personally
- Keep an effective suction ready
- Keep his airway clear
- Be ready to control his ventilation
- Have a vein open for giving emergency medications.
- Monitor his Pulse and B.P.
- Always keep an assistant who can apply cricoid pressure

Some of the aspects may be discussed a little more elaborately.

- Preoperative assessment for identifying any preexisting diseases and correcting them when ever possible or at least to take steps to prevent further damage.
- It is very important that the anaesthesiologist only decide about the fitness of the patient for anaesthesia. He shall grade the Risk after careful consideration of all the risk factors with regard to three distinct aspects namely; *the patient’s condition, the technique of anaesthesia proposed, and the proposed surgical procedure* (the magnitude of surgery).
- It is very unfortunate that many times the surgeon decides about the fitness for anaesthesia or the cardiologist decides and gives fitness. They may not comprehend the inherent problems associated with anaesthesia.
- Preoperative starvation – even for day care plan. It is a golden dictum that if the patient is not under our care during starvation, it is presumed that the patient is with full stomach. There are ample incidents where patients got injures and had food after the injury, when taken up after

12 hours, vomited solid food retained in the stomach because of impaired emptying of stomach.

- Administration of Premedication – may be given even days prior to the day of surgery. Surgery and anaesthesia are very common and routine affair for us, but for the patient and their relatives, it is still a night mare.
- Anesthetizing the patient on a tipping table. In case the patient vomits or regurgitates the gastric contents a head down tilt of the table will certainly help to prevent aspiration into the lungs.
- Keeping an effective working suction always at hand.
- Keeping an assistant who can help in securing an IV line, taking the drugs necessary and in Intubating the patient and stays during the anaesthesia and recovery to assist the anaesthetist. This aspect is given prime importance world wide.
- Observing the patient for full recovery following certain strict protocol based assessment as approved by the institution has to be established before sending the patient to the post operative ward.
- A good recovery room as per the standards laid down pertaining to the *space, personnel, equipments and monitors* etc are essential. It is a fact that in many institutions, including some sophisticated centers this aspect is not given due importance and serious lapses are noted.
- The surgeon should not demand or insist on a particular technique of anaesthesia which may prove detrimental or sometimes fatal as he may not know the limitations of the technique or the competence of the anaesthetist to manage the particular technique.

Common causes of Anaesthetic accidents

Ultimately, the motto of the Anesthesia Patient Safety Foundation should be the goal of all anaesthesia professionals: **"That no patient shall be harmed by anaesthesia"**.

Our aim is **"Primum Non Nocere"** - "First of all do no harm."

So in anaesthetic practice no mortality could be accepted and morbidity must be minimal. Percentages literally carry very little meaning as for as mortality is concerned. Even if it is .001 % means that out of 100,000 patients anaesthetised, one patient died. It means 100 % loss for the family concerned.

"It is not the drug that is dangerous, but the man who administers it is"

- Sir Robert Macintosh

This quote clearly indicates that the human being concerned is more important to establish safety than anything else. The following quote by John R. Moyers reiterates the same fact.

"There is no substitute for vigilance and common sense." Because human error plays a major role in most anaesthesia disasters, applying the tenets of physical examination and common sense to monitoring may help to provide safer anaesthetic care.

- John R. Moyers

All the retrospective reviews done world wide to analyse the causes for anaesthetic accidents, in conclusion have identified that there are certain common causes which contribute to these accidents. Though there are small variations in percentages among the different studies, the causes identified are the same.

One of the authors in a review concludes as follows; *'Accidents hardly ever happen without warning. The combination or sequence of failures that cause an accident may indeed be unique, but the mistakes are always common'*.

This again indicates that the errors that cause anaesthetic accidents are common and vigilance can certainly prevent them.

The common causes of anaesthetic accidents are given below in the order of importance.

- Human errors
- Lack of vigilance
- Distractions
- Fatigue
- Inexperience
- Inadequate supervision of juniors
- Failure of communications
- Drug reactions and Equipment failure

The studies show that human errors contribute for vast majority of accidents that can be prevented. Accidents due to Drug reactions, Anaphylaxis or equipment failure are relatively uncommon and comprise a very small percentage.

Attitude

“All Anaesthetists however experienced and however accident - free, should be humble enough to realise and understand that they may make mistakes in any part of their work” These errors may be in technique or judgment or simply failure of vigilance

- **Allnutt M. F.** (*Br. J. Anaesth* 1989)

In one of the reviews, in UK, it has been established that seventy-five per cent of air incidents are related to human factors, and it is likely that a similar proportion of adverse patient events in the NHS are related to human error.

The human errors are usually as a result of the Attitude we have towards the work. For ensuring safety in anaesthesia practice, a hasty approach, the temptation to take up the patient for anaesthesia at any cost must be avoided. It needs lots of wisdom to curtail such temptation as the intension to do good must be always there.

- **John Alfred Lee**

Infrastructure

Many times, the infrastructure related to safe administration of Anaesthesia such as the equipments, personnel, monitors, recovery room, recovery staff all may be inadequate. Still the anaesthesiologists grumble about it and take up the patient for anaesthesia, exposing him for greater risk.

“If we cannot undertake a clinical responsibility with proper safety, the only honest and forthright attitude is not to undertake it.” Success has no meaning without ‘**safety**’ in clinical practice.

- **A. Lal** (*IJA 37:1 Editorial - 1989*)

Fatigue

Very commonly, **fatigue** due to long hours of continuous work, ill health or over work is identified as the cause of human error.

“The Anaesthetist has to be prepared for the unexpected and to be alert. Commonsense says, a reasonable amount of sleep and rest is necessary before taking up a patient’s life in to his hands”

-**Lee Dyer C.** (*Br. Med. J 1988*)

The ten Golden rules of anaesthesia formulated by WHO are still worth remembering and following. In many situations these things are not strictly followed. The reasons why they are not followed may vary, but the fact is that they are not always followed.

Checking Drugs and Equipments

- Personally check all the equipments for proper functioning.
- Check and keep all essential drugs needed for anaesthesia on work table.
- Check that all emergency drugs are available within easy reach – locate them. There is no need to keep every drug on the work table.
- Personally dilute and load the drugs and label the syringes.
- Never allow others to load the drugs

Are we doing these always? For various reasons not all these are done by the anaesthesiologist personally.

Drug Error Prevention

Reviews of the error-prevention literature in anaesthesia find the following interventions are clinically proven in reducing drug error:

- Carefully checking vial/ampoule before drawing up or administering drug.
- Optimising syringe label legibility and apply standards, e.g. class colour.

- Labeling syringes.
- Organising drug drawers and workspace in a formal, orderly fashion.
- Managing proximity of similar and dangerous drugs.
- *Second person validation of drug before drawing up or administering.*

Legal Responsibility

The Anaesthesiologist is legally responsible for functioning of the equipments he uses and the drugs he gives. So, it is often said that “*A high index of suspicion*” is a good characteristic of a safe anaesthetist and he should check, recheck and again check things himself to be sure that everything is right.

He shall dilute the drugs he plans to use and loads the syringes and label them himself. If the other staffs like a theatre technician are permitted to do it, it is done under his direct supervision and he takes the responsibility of it.

The Association of Anaesthetists of Great Britain and Ireland (AAGBI) call for an end to the “blame culture” that exists after allowing the subordinates to do the job.

Care during Recovery -Recovery room

As it has been established that most of the anaesthetic accidents occur during recovery, patients need special care during this time.

“The safest place for patients to recover is the operating theatre itself”

- Michael B. Dobson

This way of patient care may not be feasible at all times in all places due to various factors, hence the need for a proper recovery room.

“All the intensive care given to the patient during intra-operative period is only to be totally abandoned in the immediate postoperative period”

- W.

D. Wylie

Though this statement is made by one of the pioneers W. D. Wylie about 64 years ago, still it carries some truth in it.

A good recovery room as per the standards laid down pertaining to the space, personnel, equipments and monitors etc are essential. High Dependency Unit facility following any major surgery must be available if such surgeries are taken up in a regular basis.

Do we have a recovery room at every place we work?

Transfer to Postoperative Ward

The transfer of the patient to postoperative ward must not be done in a hurry. After the patient being observed for sufficient time in the recovery room, only when he awake and comfortable with adequate respiration and stable cardiovascular system he may be examined by the Anaesthetist or the recovery room staff to certify to be transferred to post operative ward.

In comparison to commercial aviation, how safe is anesthesia?

- It is a common practice that the beginners in anaesthesia are always told that the conduct of anesthesia is equated or compared to the flight of an aircraft. The Induction is like take off; maintenance of anaesthesia is like actual flight and the recovery or emergence from anaesthesia is equal to landing of the aircraft.
- The pilot makes a thorough check of the cockpit sufficiently before takeoff all the equipments and gadgets in cockpit makes clear that every piece of equipment is functioning properly.
- Invariably, the take off is usually very smooth as the extensive check done in every aspect by various technicians and the final thorough cock pit check by the pilot make things more safe. Every one is bright and alert at the start.
- Similarly, usually sufficiently before induction, the anaesthesiologist must check the Anaesthetic machine and accessories along with appropriate drugs and essential monitors and make sure that every piece of equipment is functioning well. There is always a question. Are we doing it all the time?
- If we carefully analyse the accidents, we come to know that majority of the aircraft accidents do occur only during **landing**. Rarely, a small percentage of accidents do happen during take off because of technical flaws or errors. Accidents on the air, like collision of aircrafts as the one that occurred a few years ago are extremely rare.
- The Anaesthesia Safety Foundation. USA 1980, The Australian Patient Safety Foundation first reported in 1988, Confidential Enquiry into Perioperative Deaths (CEOPD) in UK in 1987, all have identified another similarity between the flight of aircraft and Anaesthesia. That is more than 90 % of aircraft accidents occur during landing and more than 80 % anaesthetic accidents occur only during recovery.

Of course, flying and undergoing anesthesia have nothing in common except;

- That **both are not entirely safe.**
- That in both examples **the victim does not contribute to a disaster.**
- That in both examples **the passenger or patient has every right to expect that he or she will not be harmed by the trip - be it a flight or anesthetic.**

So also, in this comparison except the rate and the time of accidents, nothing else is very similar. Here only the patient is at risk. Hence this comparison may be taken as the example to emphasise the “**Preparedness**” needed in both.

- There is a special difference between the two. If an accident occurs in flight, invariably the Pilot also will be killed. But in anaesthesia the patient only is affected.

Safety as Top Priority

- One might, therefore, reasonably ask, "What anesthetic death risk is acceptable?"
- And if the death risk in anesthesia is deemed to be unacceptable, what is society willing to invest in improving safety in anesthesia? Or, in other words, how much (in money and resources) should we commit to saving a life?
- Very sadly, our administrators remind us that we cannot increase our expenditures for safety unless we can show that it raises income or measurably improves outcome. It cannot be done. So, we are going to keep the status quo, more or less. Perhaps we can even squeeze out some savings. We are sure you won't mind."
- Of course, we won't say that. Instead we should raise our voices in support of safety.
- If we don't, safety will take a backseat to economy, and our mortality statistics will eventually show our patients doing worse rather than better.

Conclusion

Surgical patients may die at various point of time due different causes that may not to be under our control.

“Death due to a disease may be inevitable, but a death due to Anaesthesia is a tragedy.”

- King

This discussion and analysis support the contention that nearly all the inevitable mishaps (technical or from errors in judgment) that occur during anesthesia can be identified through safety monitoring early enough to prevent most major patient injuries.

Patients place their ‘Trust’ on us. We are totally responsible for ensuring ‘Safety’ to them. It is an unwritten agreement of ‘Professional ethics’. Are we really following all these simple basic standards of safety? If not – why? Let us honestly answer this question and improve on the standards of safety. Let us strictly follow the standards and ensure that no one dies of preventable Anaesthetic causes.

Anesthesiologists should remain aware of the hazards they still face, take pride in having been the leaders in patient safety efforts, and stay motivated to continue the pursuit of no harm from anesthesia with the passion it still demands.

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