International Journal of Basic and Applied Medical Sciences ISSN: 2277-2103 (Online)
An Open Access, Online International Journal Available at http://www.cibtech.org/jms.htm
2014 Vol. 4 (2) May-August, pp. 240-242/Bhattacharya and Bhattacharya
Research Article

MINIMUM MONITORING STANDARDS FOR SAFE PRACTICE OF ANAESTHESIA

***Dipasri Bhattacharya[1] and Ela Bhattacharya[2]**
[1]Department of Anaesthesiology, R.G. Kar Medical College, Kolkata, West Bengal, India
[2]Department of Electronics and Communication Engineering, TCS Consultant, Kolkata, West Bengal, India
**Author for Correspondence*

ABSTRACT
On this 164th year celebration of world Anaesthesia day we should update our knowledge and practice safe anaesthesia. The "objective of WFSA & ISA is "safe anaesthesia saves life" - stressing the need for minimum monitoring standards under the existing ISA guidelines. Monitoring is an essential part of anesthesia care. Effective monitoring reduces the potential for poor outcomes that may follow anesthesia by identifying derangements before they result in serious or irreversible injury. WFSA, in the year 1992 approved the basic monitoring standards formed by international task force. The Indian Society of Anaesthesiologists (ISA) take guidelines from WFSA from 30/12/1999 are considered as national standards applicable for anaesthesia services in any part of the country.

Keywords: *Monotoring Standards, WFSA, ISA*

INTRODUCTION
Two Standards For Basic Anaesthesia Monitoring (American Society of Anesthesiologists, 2000; Association of Anaesthetists of Great Britain and Ireland, 1989)

(Approved by the ASA House of Delegates on October 21, 1986, and last amended on October 25, 2005)

Standard I for Monitoring Includes:

The presence of a qualified Anaesthesiologist in the operating room at all times to monitor the pt continuously and modify anesthesia care based on clinical observations and responses of the pt to treatments.

***Standard II Specifies*:**

During all anaesthetics patient's oxygenation, ventilation, circulation & temperature shall be continuously evaluated

WFSA Revised International Standards for a Safe Practice of Anaesthesia in 2008

Revised Monitoring Standards

Highly recommended – MINIMUM MANDETORY monitoring for Level 1 setting for basic infrastructure (Rural set up)

Highly recommended + *recommended* -- Level 2 setting for intermediate infrastructure (District hospital)

Highly recommended + recommended + suggested --- Level 3 setting for optimal infrastructure (Referral hospital)

A. Oxygenation

(i) Oxygen Supply

Adequate oxygen supply is highly recommended for all patients undergoing general anaesthesia. Fi02, oxygen supply failure alarm and a device protecting against the delivery of an hypoxic gas mixture is *Recommended*

(ii) Oxygenation of the Patient

Tissue oxygenation should be monitored continuously clinically & pulse oximetry is Highly recommended

B. Airway and Ventilation

i) Clinical & continuous monitoring with a precordial, pretracheal, or oesophageal stethoscope is recommended

ii) Capnography is recommended

iii) When mechanical ventilation-- a "disconnect alarm" should be used throughout the period of mechanical ventilation is recommended

iv) Continuous measurement of the inspiratory and expired gas volume & concentration of volatile agents is *suggested*.

C. Circulation

(i) Cardiac Rate and Rhythm

Clinical & continuous monitoring by pulse oximeter is *highly recommended.* Electrocardiograph is recommended**.**

The availability of a defibrillator is *recommended***.**

(ii) Tissue Perfusion

Clinically & by pulse oximeter is highly recommended capnograph is R*ecommended*

(iii) Blood Pressure

*Clinicall*y should be checked every 5 minutes by sphygmomanometer. Non Invasive Blood Pressure monitoring (NIBP) & intraarterial blood pressure monitoring in appropriate cases is *suggested*

D. Temperature Monitoring

Recommended in prolonged anaesthesia & extremes of age

E. Depth of Anaesthesia

Bi spectral index monitoring is not universally recommended but *Suggested* in high risk of awareness in general anaesthesia & neuro anaesthesia.

F. Neuromuscular Monitoring

Any major surgery requiring prolonged period & for any special surgery neuromuscular monitoring is *recommended*

The Audible Five Alarms (Prys-Roberts and Brown, 1996; Thompson and Mahajan, 2006)

During Routine Anesthesia Care a Minimum of 5 Alarms Must Be In Use

1. Inspired oxygen and a low O2 limit alarm
2. Airway pressure limit alarm
3. Oximetry
4. Blood pressure limit alarm
5. Heart Rate limit alarms

Recovery & Post-Anaesthesia Care (Task Force Report, 2006; WFSA, 2008)

All patients should be observed and monitored for level of consciousness, vital signs, medical condition with emphasis on the adequacy of oxygenation, ventilation, circulation, and temperature.

Pulse oximetry is highly recommended until consciousness has recovered.

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