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HACKETTSTOWN REGIONAL MEDICAL CENTER

Reviewed by: Dr. Vujic, Chief of Anesthesia
ML Mason RN

OR
(Scope)

TITLE: **PREVENTION AND MANAGEMENT OF AWARENESS UNDER GENERAL ANESTHESIA**

PURPOSE: To develop a policy for the prevention and management of anesthesia awareness

I. STATEMENT OF POLICY:

a. General anesthesia administered to patients at any anesthetizing location in the hospital shall be carried out in such a manner as to minimize the occurrence of unintended intraoperative awareness.
b. Pre-operative anesthesia assessment will seek to identify patients at increased risk for intraoperative awareness. Such patients will receive additional preoperative discussion regarding the possibility of intraoperative awareness.
c. Post op follow up of patients receiving general anesthesia will include an assessment to determine if patients have experienced intraoperative awareness, patients who have experienced intraoperative awareness will receive specific care and appropriate referrals for optimal patient outcome following the event.

II. APPLIES TO

Anesthesia nursing and surgical personnel and all other staff who are involved in surgery using general anesthesia in the hospital.

III. PURPOSE

To establish appropriate policy and procedures within the hospital to minimize the occurrence and consequences of unintended intraoperative awareness in patients receiving general anesthesia.

IV. IMPLEMENTATION

a. Definition:
The policy for prevention and management of anesthesia awareness applies when patients receive general anesthesia. This will not include cases where level of anesthesia intentionally varies from light sedation to short periods of general anesthesia (e.g. GI, endoscopy, fibroptic, bronchoscopy). Recall during some portions of these of procedures is expected and acceptable.
b. Identification of high-risk awareness procedures and patients.
   i. C-Sections with general anesthesia. (Especially emergent C-Section)
   ii. Hemodynamically unstable patients. (Especially trauma patients)
   iii. Cardiac Surgery
   iv. Spinal Surgery with evoked potentials monitoring (requiring total intravenous anesthesia)
c. Be aware of factors contributing to awareness:
   i. Use of IV anesthesia (as opposed to using inhalation or balanced anesthesia).
   ii. Premature lightening of anesthesia at the end of surgery to speed turnover of rooms.
   iii. Masking of physiologic indicators of light anesthesia (i.e., HTN, ↑HR, movement, hemodynamic changes) by muscle relaxants, B-Blockers, Ca^{++} channel blockers.
d. Discuss with such patients the risks of awareness, before their surgery. In addition, explain the reasons for the increased risks and the precautions that will be taken to try to avoid them.
e. Reducing the Risks of Intraoperative Awareness
   i. Management of patients undergoing general anesthesia from plan of action disk.
      a. Consider premedication with amnestic drugs, particularly when light anesthesia is expected.
      b. Administer full induction dose of induction agents (as opposed to just a “sleep” does) if they will be followed immediately by intubation.
      c. Avoid indiscriminate use of muscle relaxants. When muscle relaxants are absolutely necessary, avoid total paralysis by titration of muscle relaxants using nerve stimulation.
      d. Check anesthesia machines before every case to ensure adequate levels of inhalation agents in vaporizers and proper function of vaporizers and ventilator.

e. Monitor inhalation agent delivery with exhaled gas monitors.
f. Be vigilant for signs of light anesthesia and be alert to medication that can mask these signs.

f. Post Operation Follow-up after General Anesthesia
   i. Appropriate post op follow-up of general anesthesia patients will be done during post-op phone call done 1-3 days post op.
   ii. Patients with a possible positive response will be referred, promptly, to the Department of Anesthesia. Any case with likely or positive awareness during general anesthesia will be referred to Hospital Risk Manager.
g. Management of an Occurrence of Intraoperative Anesthesia Awareness
   i. The responsible anesthesiologist (or designee) will be responsible for assessment and management of a suspected intraoperative awareness incident.
   ii. Following notification of a suspected awareness episode, the anesthesiologist will interview the patient ASAP and take a detailed account of the episode. He will determine if the account is consistent with intraoperative awareness (confirmed awareness), or classified as possible awareness or intraoperative dreaming. The account should be documented in the patients chart.
h. Management of patients who have experienced awareness:
   i. Interview patient after procedure and take a detailed account of his/her experience and include a copy in the chart.
   ii. Assure patient of credibility of his/her account and sympathize with patients suffering.
   iii. Explain what happened and the reason for it.
   iv. Offer psychiatric or psychological support to the patient.
   v. Notify surgeon and key personnel about the incident.

V. CLINICAL STAFF EDUCATION

a. The Chief Nurse Executive will insure that appropriate nursing staff who participates in the care of patients who receive general anesthesia will be alerted to this policy. A core education module (Appendix B) consisting of the JCAHO Sentinel Event Alert #32 and a short summary will be implemented into Nursing Education training and review procedure.
b. The Chief Medical Officer and Medical Staff Office will be responsible for alerting all surgeons and physicians who perform procedures under general anesthesia of this policy. The core education module (Appendix B) will be distributed to these members of the Medical Staff.

VI. PROCESS AND OUTCOME MEASUREMENT AND QUALITY IMPROVEMENT

a. Department of Anesthesia will identify an individual responsible for intraoperative awareness reporting and follow up.
b. Department of Anesthesia will determine a system for assuring compliance with the documentation and practice requirements as outlined in this policy.
c. Annual summary reports will be generated that include total number of general anesthesia cases, the number of cases of suspected awareness incidents and resulting evaluation of suspected incidents into: confirmed awareness, possible awareness, dreaming.
d. Percentage of confirmed awareness cases in “high risk” patients.

VII. EVALUATION OF NEUROMONITORING TECHNIQUES FOR THE POSSIBLE USE IN PREVENTING AWARENESS

The Hackettstown Anesthesia Group will, as always, continue to follow ASA guidelines and recommendations for monitoring of all patients receiving anesthesia at Hackettstown Regional Medical Center. Neither the ASA nor AANA currently recommends any neuromonitoring techniques to prevent awareness at present. We have already evaluated BIS monitors and we will continue to monitor developments in new monitoring equipment and ongoing studies regarding the effectiveness of these monitors in decreasing the incidence of awareness. At present the ASA is looking at BIS and several other monitoring techniques and evaluating research studies.

APPENDIX

Anesthesia Awareness Interview

1. What is the last thing you remember before going to sleep?
2. What is the first thing you remember waking up?
3. Did you dream during the procedure?
4. What was the worst thing about your operation?

Guidelines for referring an Interview

A positive response to this interview shall be:

1. Memory of feeling sharp cutting or other specific portion of the surgery.
2. Memory of specific discussions of surgical team regarding the procedure intraoperatively.
3. Specific memory of laryngoscope blade being placed in mouth **and** tube being placed in throat
4. Memory of surgery going on but being paralyzed and not able to move or say anything to stop it.
5. Other obvious incidences of intraoperative awareness.
6. Memory of tube in mouth at end of procedure or feeling a staple or stitch at the end of the procedure does **not** qualify as an intraoperative awareness event.

Positive interviews will be referred to Dr. Vujic of the Department of Anesthesia