AANA develops Infection Control Guidelines for Anesthesia

In February, 1989, the AANA Board of Directors adopted Infection Control Guidelines for Anesthesia, which are reproduced here in their entirety. As the introduction to the Guidelines states, their purpose is to assist the CRNA “to prevent and control the spread of infection within the operating room environment.”

American Association of Nurse Anesthetists
Infection Control Guidelines for Anesthesia

Purpose

To prevent and control the spread of infection within the operating room environment.

These guidelines, developed by the AANA Practice Committee, are designed to assist CRNAs in formulating infection control protocols for their individual practice settings. A CRNA should serve on the hospital infection control committee and utilize infectious disease personnel as a resource for information and consultation. Policies and procedures should be updated at least annually and more frequently when important new information is obtained. Guidelines developed must be approved by the institutional Infection Control Committee. Care should be taken to ensure that developed policies and procedures meet JCAHO accreditation standards for infection control. Updated information on virtually every facet of infection control is available by writing to the U.S. Department of Health and Human Services (DHSS), Centers for Disease Control (CDC), Center for Infectious Disease, Atlanta, Georgia 30333 and/or the U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia 22161.

Policies

1. All patients should be treated as potentially contaminated. The increasing prevalence of infection caused by the hepatitis B virus (HBV) and human immunodeficiency virus (HIV) mandates that routine precautions should be followed whenever contact with blood or body fluids is anticipated.
2. Principles of aseptic technique should be followed meticulously.
Health Care Providers
1. Health care providers with known or suspected communicable diseases should not be assigned to patient care, and those with any infections should be appropriately evaluated before being assigned to patient care.
2. Institutional/departmental policy should include procedures for reporting treatment and follow-up of health care providers who sustain cuts, lacerations or needle sticks.
3. Attire: Scrub suits must be worn in the operating room areas. Warmup jackets may be worn, if desired. Hair (head and facial) must be completely covered. Disposable masks should be worn and changed between cases, or earlier if they become moistened. In the absence of definitive evidence on the effectiveness of shoe covers in preventing transmission of disease, whether they are required to be worn should be determined by the institution.
4. Hand washing for at least 15 seconds, using an appropriate antimicrobial soap, must be done at the beginning of each day, between cases, before sterile procedures and whenever common sense indicates.
5. Clean lab coats must be worn over scrub suits whenever the health care provider is outside the operating room. Scrub suits should be changed before reentering the operating room areas.
6. All health care providers should be offered the HBV vaccine. (Anesthesia staff has been identified as a high risk group for hepatitis B infection.) Those who want the vaccine then should be tested for HBsA (antibody) and, if negative, receive the vaccine. After the appropriate time interval, those receiving the vaccine should be restated and followed up in accordance with CDC guidelines.

Equipment
1. Single use disposable fomites (inanimate objects) for each patient should include, but not be limited to the following:
   a. Airway administration accessories (masks, breathing circuits, oral and nasal airways, endotracheal tubes, esophageal stethoscopes).
   b. Suctioning accessories (suction kits with sterile suction catheter and gloves), suction tubing, suction cannisters.
   c. Intravascular access components (needles, syringes, catheters, central venous, arterial and pulmonary artery monitoring kits).
   d. Regional block trays, spinal, saddle block, epidural, retrobulbar block trays.
2. Reusable equipment should be washed and disinfected between patient use.
   a. Rubber goods, laryngoscopic equipment, connectors, stylettes, Magill forceps, thermometer probes, etc., should be scrubbed throughly with a hospital-approved disinfectant, rinsed with water, then soaked in an appropriate disinfectant according to the manufacturer's recommendations, thoroughly rinsed and dried.
   b. Anesthesia machines, EKG monitors, anesthesia ventilators, automatic blood pressure units, pulse oximeters, carbon dioxide monitors and other non-disposable equipment should be wiped down once a day with a disinfectant containing appropriate antimicrobial properties. Preliminary cleaning with detergent may be necessary to remove blood and other tenacious secretions.
   c. Carbon dioxide absorbers should be disassembled and cleaned with a disinfectant with appropriate antimicrobial properties. For cases in which the patient is not known to have active tuberculosis, but in which it is discovered intraoperatively, the CO₂ absorber is disassembled, double bagged, appropriately marked with department name and contents and sent for gas sterilization. For cases of known pulmonary infection, disposable CO₂ absorbers should be used. Breathing circuits with viral/bacterial filters should be used for all cases. If only one filter is available, it should be placed on the inhalation side; optimally, filters should be placed on both the inhalation and exhalation sides of the breathing circuit. Ventilators may be protected from inadvertent contamination by using effective viral/bacterial filters that are changed at appropriate intervals.

General Considerations
1. The importance of hand washing cannot be overemphasized and is probably the single most important step in preventing the spread of infection.
2. Because it is not often known whether a person is infected with HBV or HIV, it is mandatory that all health care workers handle all blood and body fluids with standard precautions (see Universal Precautions).
3. All sharp items should be considered as potentially infected and handled with extraordinary care. Needles should not be recapped, bent, broken, removed from syringes or otherwise manipulated by hand. Used needles and syringes should not be reinserted into multidose vials. Disposable syringes,
needles and other sharp objects should be placed in a puncture-resistant container.
4. Whenever possible, intravenous drugs should be administered through stopcocks interposed in the intravenous tubing, as opposed to injection ports, in order to minimize the risk of accidental needle sticks.
5. Special consideration should be given to manufacturer’s instructions, especially concerning the appropriate time interval for effective disinfection/sterilization.

Prevention of HBV and HIV Infections

The U.S. Department of Labor announced a policy, effective October 1987, that required all hospitals to protect employees against hepatitis B (HBV) and human immunodeficiency virus (HIV) infection. Under the policy, hospitals that willfully disregard the CDC’s recommended HBV/HIV precautions now face fines up to $10,000. The Occupational Safety and Health Administration (OSHA) began enforcing the policy immediately, using legal authority it already had under existing rules and regulations. These include a statute that says employers have a general duty to protect employees against “recognized hazards” and a rule that requires the use of “personal protective equipment,” i.e., protective eyewear, masks, gloves, gowns, etc. The Department of Labor has published permanent rules to protect health care workers from HBV/HIV infections. A copy of these rules may be obtained by writing to the CDC.

The increasing prevalence of HIV increases the risk that health care workers will be exposed to blood and/or secretions from patients infected with HIV, especially when blood and body fluid precautions are not followed for all patients. HIV has been isolated from blood, semen, vaginal secretions, saliva, tears, breast milk, cerebrospinal fluid, amniotic fluid and urine and is likely to be isolated from other body fluids, secretions and excretions. While the incidence of HIV has been low to date, health care workers have been infected with HIV not only from a needle stick, but also through a blood spill on mucous membranes or damaged non-intact skin from dermatitis, chapped, cracked hands, psoriasis, etc. Current data indicates that HBV is much more likely to be transmitted (6%-30%) following a needle stick than HIV (less than 1%). Both HBV and HIV are blood borne viruses that may be found in body secretions such as urine, semen, saliva, etc. Because it is not often known whether a person is infected with HBV or HIV, it is mandatory that all health care workers handle all blood and body fluids with standard precautions (see Universal Precautions).

Universal Precautions

The rationale of universal precautions is to provide protective barriers between health care workers and patients. Since medical history and examination cannot reliably identify all patients infected with HBV or HIV, it is imperative that blood and body fluid precautions be consistently used for all patients. In June 1987, the Association for Practitioners in Infection Control endorsed the application of blood and body fluid precautions to all patients. The advantages of applying universal precautions include (1) reduced contact with blood and body fluids, (2) reduced likelihood of transmission of specific organisms such as HBV and HIV, (3) consistent needle and sharp disposal practices, (4) increased confidentiality for all patients (since signs identifying infected patients have been eliminated) and (5) simplicity and consistency in applying infection control precautions.

Recommendations: Blood/Body Fluid Precautions

1. Gloves should be worn when performing venipuncture, arterial stick and whenever contact with blood/body fluids is anticipated. Gloves should be worn when touching mucous membranes or open skin, (i.e., laryngoscopy, intubation, nasogastric tube insertion).
2. Hands should be washed between patient contacts as well as immediately after accidental contact with blood/body fluids and/or after gloves are removed.
3. Masks and protective eyewear should be worn whenever aerosolization or splattering of blood/body fluids is anticipated, (i.e., during laryngoscopy, laser treatment, wound irrigation or extubation).
4. Sharp objects (needles, scalpel blades, etc.) should be handled in such a manner as to prevent accidental cuts or punctures. Used needles should not be bent, broken or recapped; they should be discarded intact in a puncture-resistant container.
5. Gowns or aprons should be worn during procedures that are likely to generate splashes of blood/body fluids.
6. Blood spills should be cleaned immediately with a hospital disinfectant or a solution of household bleach (sodium hypochlorite) in a 1:10 dilution.
7. To avoid the need for emergency mouth-to-mouth resuscitation, disposable mouthpieces, resuscitation bags and other ventilation devices should be available in areas where the need for resuscitation is predictable or anticipated. Reusable items should be appropriately sterilized.

Hepatitis B: Hepatitis B, formerly referred to as serum hepatitis, probably is the most common type of viral
hepatitis. The risk of hepatitis B, which is caused by the hepatitis B virus (HBV), is high for health care workers who have frequent contact with blood. A chronic hepatitis B carrier state occurs in 6% to 10% of individuals following acute hepatitis B. However, carriers of the serological marker HB5 AG frequently give no history of recognized acute hepatitis. The CDC estimates there are approximately 400,000 to 800,000 hepatitis B carriers in the United States, and this carrier pool grows by 2% to 3% each year (8,000 to 16,000 annually). Chronic carriers represent the largest human reservoir of HBV.

A safe, effective hepatitis B vaccine (Heptavax B) is available and highly recommended by the U.S. Public Health Service. The vaccine may be obtained through employers, physicians or public health departments. In 1988, the recombinant hepatitis B vaccine (non-plasma derived) became available and also is recommended.

Adopted by the AANA Board of Directors, February 1989.

Bibliography

7. Infection Control Guidelines. Department of Anesthesia. Rose Medical Center. Denver, CO.