

## Newborn Nursery/Neonatal Intensive Care Unit

Ref:(a) The Association for Professionals in Infection Control and Epidemiology, Principles and Practice, 1996.

(b) Hospital Epidemiology and Infection Control, C. Glen Mayhall, 1996.

### **Purpose.**

To set forth instructions for the prevention, control, and surveillance of infections within the Newborn Services. This includes the newborn, continuing, and neonatal intensive care nurseries.

### **Responsibility for Infection Control.**

- Infection control policies are developed by the Director, Newborn Services with the advice of Infection Control.
- Supervisory staff is responsible for ensuring that infection control policies are properly introduced and followed.
- All military and civilian personnel must conform to the standards set forth in the Infection Control Manual.
- The Infection Control Department in accordance with the CDC NHSN criteria conducts surveillance for healthcare-associated infections. If the staff identifies a suspected or documented healthcare-associated infection, it should be reported to the Infection Control Department immediately by phone or E-mail. If a trend or problem is identified, the advice of the Infection Control Department will be obtained.

### **Personnel.**

#### Immunizations

- Immunization history will be obtained before employment. Personnel must make every effort to maintain their immunization status to prevent the acquisition of preventable disease.
- Personnel who provide direct patient care must be immune to rubella, measles, mumps, and hepatitis B. Non-immune individuals will receive vaccine in accordance with hospital policy found in the Infection Control Manual.
- Personnel should receive annual influenza vaccine.
- Varicella immune status will be determined on employment. Non-immune personnel will receive varicella vaccine in accordance with hospital policy found in the Infection Control Manual.
- Prior to employment, all employees are screened for tuberculosis using the PPD skin test. Yearly screening for tuberculosis is performed thereafter.

#### Occupational Medicine

- Personnel must understand the risks of transmission of contagious diseases to newborns and report acute infections to their immediate supervisor.
- Supervisors will report infections in personnel to Occupational Medicine for assessment of risk transmission. Decisions regarding work restrictions will be made on an annual basis, based on the mode of transmission of the particular infection and the ability of the employee to comply with preventive measures.

- Personnel with airborne infections should not work.
- Personnel with hand dermatitis that produces exudate, staphylococcal skin lesions, or herpetic hand lesions should not perform direct patient care.
- Personnel with oral herpetic lesions should cover any external lesions and avoid touching the mouth during patient care. Masks may be worn to prevent touching of oral lesions. Hands should be washed before contact with a patient or patient care equipment.
- Non-immune personnel with significant exposure to varicella, zoster, or measles should not work during the potentially contagious phase of the incubation period.
- Needlestick/sharps injuries must be reported immediately in accordance with hospital policy found in the Infection Control Manual.

#### Education

- The principles of infection control are presented at command orientation. Policies specific to Newborn Services are covered during orientation to the nursery.
- All staff will be trained in mandatory OSHA requirements (Bloodborne Pathogens and Tuberculosis) and will maintain annual training requirements.
- All staff will attend regular in-services in Infection Control practices, including handwashing, sharps safety, Standard Precautions, and regulated medical waste.

#### Personal Protective Equipment

- The routine use of cover gowns is of no proven value. Studies have shown that routine use of gowns does not reduce colonization or infection in newborns.
- Personnel will wear a scrub dress or suit.
- Gloves must be worn before touching blood, body fluids, secretions, excretions, and contaminated items. Gloves must be worn before touching mucous membranes and non-intact skin.
- Mask and eye protection or face shield must be worn to protect the mucous membranes of the eyes, nose, and mouth during procedures that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.
- A closed incubator may be used as a reminder in maintaining barrier precautions but since surfaces and entry ports readily become contaminated by hands, the outside of the incubator should always be considered contaminated.
- Gloves should be worn by personnel taking care of infants with respiratory viral infections to reduce the risk of accidental self-inoculation.
- Restrictions – **ABSOLUTELY no food or drink is allowed in any patient care area or in the nursing station/front desk.**

#### Procedures.

##### Newborn Isolation

- Most infections in newborns do not require special isolation precautions. General newborn care measures will prevent transmission of most infections between newborns.
- For most infections, where air control is not necessary, an isolation area can be defined in the nursery or NICU by curtains, partitions, or other markers.
- Infants suspected or diagnosed with certain infections (i.e., varicella, measles, TB, MRSA) require special precautions. Infants of mothers with perinatal varicella or measles should also be isolated. Isolation needs are determined by the mode of transmission of the pathogen involved, the number of infected or colonized newborns, and the care required

by those newborns. Follow the Isolation Guidelines found in the Infection Control Manual.

- Infants suspected or diagnosed with infections transmitted by contact or droplets (i.e., rubella, mumps, pertussis, and RSV) may require special precautions. A distance of at least three feet should separate infected infants from other patients.
- Co-horting of infants may be used at times of community outbreaks.
- No special restrictions against admission of infants born outside the hospital. They should be treated the same as infants born in the hospital. However, babies who are 48 hours or more of age and transferred from other facilities must be placed in Contact Precautions and screened for MRSA upon admission to NMCP NICU. Refer to the MRSA protocol in Chapter 1 of the IC manual for specific screening procedures.

#### Infected Mother

- The obstetric resident should notify the senior pediatric nursery resident of all infections suspected or diagnosed in maternal patients.
- Transmission from mother to newborn usually occurs during delivery. The advisability of maternal-infant contact will be discussed and decided on an individual basis.
- If a mother develops a fever or infection while the infant is rooming in, she will be evaluated on an individual basis by Obstetrics and Pediatrics as to the advisability of the infant remaining in the room.
- Postpartum separation of the mother and newborn is rarely indicated.
- Untreated active pulmonary tuberculosis in the mother is an indication for separation until the mother is no longer considered contagious (usually after 14 days of treatment).
- The uninfected newborn of the mother with peripartum varicella should be separated until maternal lesions have dried.
- Separation should be considered if the mother has extensive *Staphylococcus aureus* infection with drainage not contained by dressings.
- Breast-feeding is rarely dangerous to the infant. Contraindications are:
  1. Maternal HIV infection
  2. HSV lesions around the nipples
  3. Breast abscesses (risk of transmission of large numbers of bacteria to the newborn, simple mastitis on antibiotic treatment is not a contraindication)
  4. Maternal antibiotic treatment is rarely a contraindication to breast-feeding as most antibiotics are safe to administer to the newborn. Breast-feeding is contraindicated if the mother is taking chlorphenicol or metronidazole.

#### Handwashing

- All personnel will perform a 2-3 minute scrub with an antiseptic soap prior to beginning patient care in the nursery and upon re-entering the nursery care area. This scrub should include all areas of the hands and arms to the elbows. All jewelry will be removed before hand washing as this interferes with washing effectiveness and the maintenance of clean hands.
- Adherence to good handwashing is mandatory. Handwashing must be practiced meticulously. Personnel must wash their hands after any patient contact, before performing an invasive procedure, and **always** after glove removal.

- Observe proper hand hygiene procedures either by washing hands with conventional antiseptic-containing soap and water or with waterless alcohol-based gels or foams.
- Use of gloves **DOES NOT obviate** the need for hand hygiene.
- **NICU personnel will not wear hand or wrist jewelry.**

#### Infant contact with mothers and visitors

- Rooming-in. Infants rooming with their mothers should not be handled by non-family members. Family members may hold and feed infants after proper handwashing. (Visitors will be instructed in proper handwashing technique by staff personnel.)
- Visitation. Visitation is not allowed during codes or sterile procedures.
- Parents, grandparents, and siblings are allowed to visit in the nursery. Only two (2) people are allowed at the bedside at a time (excluding siblings). Routine handwashing will be performed prior to visitation. Ward visitation is limited to the visiting hours posted.
- Sibling visitation is allowed after checking with the nurse in charge or the senior pediatric resident. **Children with acute respiratory, GI, or skin infections are not allowed to visit.** Handwashing must be done prior to visitation.
- Visitors must be free of transmissible infections and are screened for active infections (respiratory, GI, or skin infections) and recent exposures prior to their visit. Visitors are individually assessed for potential risk of transmission and the ability to comply with instruction.
- Persons with airborne infections are not allowed to visit.
- Non-immune persons who have had recent exposures to varicella, measles, or rubella, and who may be in the infectious stage of the incubation period should not visit.

#### Skin care

- Maternal blood and secretions will be removed with sterile cotton sponges and warm water once the newborn's temperature has stabilized. Gloves will be worn for handling all infants until this has been done.
- Localized cleaning of the diaper area and other soiled areas will be carried out as needed, using warm water and a mild cleansing agent approved by the Director, Newborn Services.
- Whole body bathing and antiseptic soaps are not necessary for routine care but may be indicated in outbreaks.

#### Cord care

- The cord will be cut and tied using aseptic technique.
- The umbilical cord stump is left to dry naturally.
- The cord clamp should be removed prior to discharge unless otherwise ordered by a physician.

#### Eye care

- At delivery, the newborn's eyes should be cleansed with sterile cotton to remove secretions and debris.
- Newborns receive topical antimicrobial prophylaxis against *Neisseria gonorrhoea*.
- Eyes may become infected with water-borne organisms in humid incubators or from contamination with respiratory tract secretions.

- Care must be taken to prevent contamination of the eyes with drips from suction catheters after suctioning the nasopharynx or endotracheal tube.

#### Infant care

- Breast milk will be collected and stored aseptically. Milk will be expressed into sterile containers.
- Milk may be stored in the refrigerator for a maximum of 48 hours or frozen at 20° F for six (6) months.
- Frozen milk should be thawed quickly under running water with precautions to prevent contamination. After thawing, milk should be used promptly or stored in the refrigerator for no longer than 24 hours.
- Sterile commercial formula, prepared ready to feed, should be used within four (4) hours of uncapping.
- Continuous infusion tube feeding should be set up with the same aseptic precautions used for intravenous fluids. Syringes and tubing should be changed every four (4) hours, feeding and administration sets every 24 hours.

#### Housekeeping.

- The nursery should be kept clean and dust free. The charge nurse is responsible for supervising the cleaning of their areas.
- Cleaning methods that minimize dust dispersal should be used. Cleaning and dusting of the accessory areas (windows, shelves, counters, and blinds) will be done weekly with an EPA approved hospital disinfectant. **Phenolic solutions will not be used.**
- Floors and other horizontal surfaces are cleaned daily with an EPA approved hospital disinfectant. **Phenolic solutions (i.e., LPH) are not to be used on incubators or other surfaces in direct contact with the newborns.**

#### Patient Care Equipment.

- Disposable items are utilized as much as possible.
- All infant care units are cleaned and disinfected between each use. Equipment will be labeled cleaned and stored ready for use.
- All infants are transferred to a clean bassinet, isolette or radiant warmer every seven days.
- Clean/sterile gear is stored in a dry, clean area away from contaminated area or supplies.
- Sterile supplies and equipment are preferably stored in closed cabinets or shelves that are elevated at least 8-10 inches off the floor and 18-20 inches from the ceiling. Sterile or clean supplies must never be stored on the floor.
- Equipment assigned to a single patient such as resuscitation bags, masks, and other items in contact with the newborns skin or mucous membranes should be replaced and sterilized or receive high-level disinfection on a regular basis.
- Examining equipment, such as stethoscopes and ophthalmoscopes should be reserved for use with one patient or decontaminated with alcohol between patients.
- Toys should be reserved for the use of one patient, unless they can be sterilized between patients.

#### General Policies.

- Ventilator circuits and tubing are not changed routinely.
- Air filters from isolettes should be changed every three months. Fan, unit, and housing unit will be cleaned with a damp cloth on a regular basis. Follow manufacturers instructions regarding cleaning.
- Soiled linen will be handled according to hospital policy. Clean linen and gowns will be stored in closed cabinets.
- Needles, syringes, and sharps are disposed of uncapped and uncut into puncture-resistant sharps containers. .
- Staff will report promptly, all occupational injuries or infectious exposures to Occupational Medicine for treatment and follow-up.
  
- Please refer to the specific chapters in the Infection Control manual for information pertaining to intravascular devices, pressure monitoring devices, and central venous catheters.

Effective: July 1999

Revised: May 2008; Feb 2009