

INFECTION CONTROL GUIDELINES

Purpose:

Patients having radiological procedures are at risk for developing nosocomial infection. When the following guidelines are implemented the risk will be reduced.

Policy:

ASSESSMENT OF PATIENTS

1. Patients are assessed in waiting rooms and during procedures for any infectious process through appropriate questioning and observation.
2. If a patient or visitor is coughing, he is given tissue and/or submicron mask. If excessive coughing, the patient is placed in a single room as soon as possible.
3. An effort is made to keep body fluids contained.

HAND WASHING

1. For complete procedure refer to the hand washing procedure in Infection Control Policy 2.0.
2. Routine Patient Care: A thorough hand washing with soap and water is done before and after contact with any patient.
3. Hospital approved waterless hand wash is used in rooms where there are no sinks available.

VARIOUS PATIENT SKIN PREPARATION RECOMMENDATIONS

1. The Skin is cleaned with soap and water if grossly soiled. Chlorohexidine solution is used and allowed to contact skin for 4 minutes before invasive procedures.
2. Shaving is not preformed, only clipping is done when needed.
3. Iodophor/Alcohol Combination (DuraPrep) (Used for surgical preps only)
 - a. Assure skin is thoroughly cleaned.
 - b. Prep skin with a swab solution. Starting at the site of incision or puncture, apply the antiseptic using concentric circles, working outward, making certain that the entire prepared area is completely wet.
 - c. Allow to dry approximately 3 minutes. Do not wipe off.
 - d. Carry out procedure.
4. When IV sites are started, the skin is to be prepped with 70% alcohol preps, using at least two pads. Starting at the center of site prep extending outwardly in a circular motion. For complete instructions refer to Infection Control Policy 22.0, Skin Preparation for Invasive Procedures.

GENERAL INFECTION CONTROL GUIDELINES

1. Standard precautions are used on all patients.

2. Personnel maintain good personal hygiene while working with patients such as wearing clean uniforms, coughing into disposable tissue, and not performing direct patient care when hands have cuts or draining areas.
3. Clean gloves are worn when it is anticipated what personnel may have contact with blood and other potentially infectious material (OPIM), mucus membranes and non-intact skin. Gloves are worn when performing vascular-access procedures and when handling contaminated items.
4. Routinely, the cleaning up of spills is done by Environmental Services. However, when spills occur in high-traffic areas, Radiology personnel should clean up spills immediately.
5. Clean gloves are worn for cleaning-up spills of body fluids. Strict hand washing is also observed after removing the gloves.
6. Splash-proof disposable gowns are available and worn if exposure to blood or OPIM is reasonably anticipated.
7. Mask and goggles may be used if there is possibility of heavy splashing.
8. Sinks are not used for discarding any patient secretions or excretions; designated toilet is used and the material is flushed down the drain. Staff must wear appropriate PPE when emptying containers.
9. A suction machine is maintained with a sterile suction catheter to ensure that suction is readily available. The suction canister, tubing, and catheter are changed between each patient use. They are placed in a contaminated box for ultimate incineration.
10. The emergency cart contains an ambu bag or other breathing bag and three clean masks, (small, medium, large), which are covered with plastic dust covers, as well as assorted sizes of airways, clean and ready for use at all times. They are sent to Central Service for processing after each use.
11. Oxygen therapy equipment is not setup prior to use and is discarded after each use.
 - a. Regulators must be wiped down with hospital disinfectant.
 - b. Linen is changed between each patient procedure. The table is cleaned thoroughly with disinfectant if contaminated with blood or OPIM.
12. Sterile supplies are checked and rotated to ensure package integrity. Chemical indicators in each pack as well as the packaging integrity are checked before use.
13. In departments such as O.R., OB, and NICU requiring special attire, the person performing these procedures must be appropriately attired and follow the Infection Control guidelines for that area.
14. Used needles and syringes are handled cautiously and not recapped. The used needle and syringe is placed in a sharps container for ultimate disposal.
15. Sterile and clean supplies are stored separately but can be stored in the same room. They are stored no less than 12 inches from the floor and 18 inches from the ceiling.
16. Only dirty items are stored in the dirty utility room.
17. Special considerations for prevention of infection:
 - a. Doors are to be kept closed during all procedures.
 - b. IV catheters in place are not disturbed.
 - c. IV's are not connected until immediately before use.
 - d. IV solutions are not premixed.

- e. When handling patients with indwelling urinary catheters, care is taken not to elevate the urine bag above the bladder to reduce the incidence of reflux back into the bladder. Bags are attached to the side of the bed or a bag holder is used.
- f. Single vials of medication are used once and then discarded.
- g. Multiple dose vials are mixed daily and discarded at end of shift.

The *Infection Control Bit*, which includes the Bloodborne Pathogens Control Plan, TB Control Plan, and Isolation Guidelines is available Infection Control Policy 1.0.

ISOLATION PROCEDURES

1. Standard precautions are used for all patients. When a patient who is in isolation is brought to the Radiology Department, personnel refer to the Infection Control BIT located in the department. The transferring department must notify the receiving department when the patient requires isolation.
2. If the patient requires respiratory isolation, the patient is immediately placed in procedure rooms #7 or #8. The exam is prioritized and the patient is returned to the nursing unit as quickly as possible. The healthcare worker wears a mask whenever in the room. The patient wears a mask in transport. The Infection Control nurse is consulted as needed.
3. If the procedure is to be done in the patient's room, personnel wear the attire recommended on the door poster.
4. If the patient is coughing and is to have a chest x-ray it should be done in room #7. If other procedures are ordered, it may be necessary for the procedure to be done in other rooms.
5. Rooms where respiratory isolation patient are seen are left vacant for the appropriate time. (Refer to TB Exposure Control Plan)
6. An employee's personal clothing (scrubs, uniforms, etc.) that become soiled with a patient's blood/body fluids should not be taken home, but must be laundered by the Hospital Laundry.

The Hospital Laundry is open 0500 - 17:00 Monday through Friday and 05:00–13:30 Saturday, Sunday and holidays. When the laundry is open, the employee shall go to the laundry and notify the Director/Assistant Director or Director/Supervisor in Charge that clothing has been soiled and scrubs are needed. The employee will then be provided a place in the laundry to change. Personal clothing will be laundered and returned to the employee as soon as possible, usually within the shift that it occurs.

LSU Health Sciences Center Infection Control Guideline: IC 5.0

PROCESSING OF EQUIPMENT

1. Disposable items are never reused.
2. Reusable items: Reusable items are sent to Central Service for cleaning and processing after each use. These items are not rinsed in this department.

CLEANING OF ROOMS USED FOR INVASIVE PROCEDURES

1. Rooms are to be thoroughly cleaned by Environmental Services daily. A daily mopping of the floors is to be done.
2. Floors are to be mopped daily and when spillage occurs.
3. Radiology personnel clean radiology equipment after each procedure with disinfectant.

INFECTION CONTROL TECHNIQUES IN BEDSIDE RADIOGRAPHY

1. Soiled equipment is not taken into patient's room. Care is taken that equipment is kept clean daily by Radiology personnel using a house keeping disinfectant.
2. Equipment and any parts of the equipment that touch a patient must be wiped with a clean wet cloth with the house keeping disinfectant between each patient use.
3. When mobile equipment is taken to a patient in isolation, the technologist wears proper attire, as outlined on the Isolation Poster attached to the door, or as otherwise directed by the nursing service personnel.
4. When two technologists are entering the isolation room one is designated to operate the equipment only (clean person); the other is designated to position the patient and to manipulate the patient's environment (contaminated person), including the door and any other items coming in contact with the patient or his environment.

ROUTINE CLEANING OF THE RADIOLOGY DEPARTMENT

1. Daily routine cleaning of rooms with the Housekeeping disinfectant is the responsibility of Environmental Services.
2. Radiographic tables and other stationary equipment are to be cleaned by Radiology personnel with the housekeeping disinfectant between patients if there is spillage.
3. Machines chin rest, and x-ray cassettes are routinely cleaned when necessary by radiology personnel.
4. Tables and other equipment used for special procedures are to be thoroughly cleaned with housekeeping disinfectant immediately after use by Radiology personnel.
5. Overhead cables, tube support columns, control boards/panels and all other electrical equipment are dusted daily and PRN by Radiology personnel.
6. Ventilators and fan-outlet parts are to be cleaned during preventive maintenance by appropriate service engineers.
7. Shelves and other storage areas are cleaned monthly.
8. Floors are cleaned with the housekeeping disinfectant daily or more often as needed by Environmental Services personnel.
9. Lead aprons are cleaned with soap and water on a weekly basis and when soiled by radiology personnel.
10. Any spills of body fluids are cleaned by Environmental Services personnel unless spill is in a traffic area; in which case, the spill is cleaned by Radiology personnel.

DISPOSAL OF WASTE

All contaminated waste is placed in a contaminated trash box to be incinerated. (See Contaminated Waste Policy located in the Hospital Policy Manual.)

SPECIAL CONSIDERATIONS BY DEPARTMENTS

BREAST IMAGING

1. Clean the breast bucky after each patient.
2. Disinfect when needed after patient with infection disease or spillage.
3. Keep documentation log of disinfected area and include date.

RADIATION ONCOLOGY DEPARTMENT

1. Accelerator treatment couch will be cleaned after each patient use by wiping with the housekeeping disinfectant.
2. Exam tables, other stationary equipment, and stretchers are wiped with the housekeeping disinfectant between patient use.
3. Aquaplast heating plate will be emptied on a daily basis and filled with fresh water prior to use.
4. Marking Material
 - a. Small individual containers of Black tattoo ink are used and discarded after each patient usage. Individual vials of tattoo ink will be sterilized by CMS prior to use.
 - b. Skin is cleaned if soiled before marking. Marks-lot pens are discarded after patient use if in contact with any body fluids.
 - c. Pre-fabricated bolus material may be used on intact skin if it is covered with plastic wrap between patients and wrap disposed of after use. Pre-fabricated bolus material will not be used on open wounds. Constructed bolus material must be made for patients with open wounds and disposed of after use.
 - d. One patient use items are used repeatedly on the same patient throughout the treatment course. When item becomes visibly contaminated it is discarded.

ULTRASOUND

1. The transducer head is cleaned thoroughly with hospital approved disinfectant (T-Spray) between patients by the sonographer at the end of each case.
2. Open Wounds: Where possible, avoid placing the transducer in an open wound. If this is unavoidable, cover the transducer with a disposable latex-free probe cover. After completion of scan, clean thoroughly with hospital approved disinfectant (T-Spray).
3. Endocavity transducers/Endovaginal Probe - The transducer is placed in a latex-free probe cover before use. Ultrasound gel is placed inside the probe cover to maximize

- conduction. The integrity of the cover is assured before use in high-risk areas and on non-intact skin. Probes are soaked in Glutaraldehyde (Cidex) for 45 minutes.
4. Portable Ultrasound Examinations - Transducers are covered with a non-latex probe cover for each patient. The integrity of the cover is assured before use. Individual sterile gel packages are used on each patient. After scan, the transducer is wiped clean and non-latex probe cover is replaced for subsequent examinations. After returning to the department, the transducer is cleaned with the housekeeping disinfectant.
 5. Processing with Glutaraldehyde (Cidex 2.4%)
 - a. Personal protective equipment (gloves, gown, eyewear, mask) is worn during the decontamination phase and when working with Glutaraldehyde.
 - b. Glutaraldehyde is kept in a controlled area. Containers are kept covered to prevent the fumes of Glutaraldehyde from disseminating into the air. The room should have at least 10 air exchanges.
 - c. The door to the processing room is kept closed at all times.
 - d. Used instruments are cleaned thoroughly with instrument cleaner solution, rinsed and dried.
 - e. Hands are washed between the decontamination stage and the disinfectant stage.
 - f. The instrument is soaked for 45 minutes in Glutaraldehyde (2.4%)
 - g. Glutaraldehyde is tested daily before placement of instruments using test strips with results recorded in a logbook.
 - h. Glutaraldehyde is monitored before each use using test strips.
 - i. The dry instrument is stored in a clean dry area.
 - j. Glutaraldehyde is discarded in the appropriate container every 14 days or sooner if solution becomes diluted or soiled. Safety Office picks up used Glutaraldehyde for disposal.
 - k. Discard date is placed on disinfectant containers upon opening for initial use.
 - l. Safety Office is notified immediately and cleans all spills.

SPECIAL PROCEDURES

1. Personnel - If the surgical incision involves a large incision (greater than 2cm) goes below the fascia, or a sterile area of the bone is exposed, a large sterile field is required, surgical hand scrub, sterile gloves, sterile barrier gown and mask is necessary.
2. Attire
 - a. Assure scrub suit is clean.
 - b. Head covering and eye protection are worn. Hair should be completely covered to prevent bacterial shedding.
 - c. A mask is worn over both nose and mouth and should be tied completely to avoid gapping at the sides.
 - d. Cap and Mask should be placed prior to beginning of surgical scrub.
3. **Procedure for using Avagard Hand Scrub:** Remove all jewelry. Perform a prewash as described above prior to the first scrub of the day. For all subsequent scrubs, if hands are visibly soiled, prewash to remove organic soil. Be certain that clean dry hands and nails are thoroughly clean and dry. Dispense one pump (2ml) of Avagard into

the palm of one hand. Dip the fingertips of the opposite hand into the lotion and work it under the nails. Spread remaining lotion over the hand and up to just above the elbow. Using another 2 ml. of Avagard, repeat with the other hand. Dispense another 2ml. of Avagard into either hand and reapply to all aspects of both hands up to the wrist. Lightly and continuously rub hands together and allow the Avagard to dry before donning gloves. DO NOT dry hands with a towel prior to donning sterile gloves.

NUCLEAR MEDICINE

1. General Measures in Giving Radioactive Material
 - a. Medications and solutions will be drawn into syringes immediately before use. Syringes used for injections are immediately discarded after use in the hospital-approved sharps container.
 - b. Documentation includes the name of the person giving the dose and the exact time.
 - c. All procedures are documented to include at minimum: the date, name and amount of radiopharmaceutical, and route of administration. The name or identifying information of the person administering the dose and the exact time of administration is recorded on the patient's dose record.
 - d. Single dose heparin vials are used.
2. Labeling of Blood
 - a. All blood removed from the patient is immediately labeled with name and pharmaceutical.
 - b. When specimens for re-injection are removed from the department they are labeled biohazard and with the patient's name and hospital number.
 - c. Prior to re-injection of labeled blood, two people verify the patient's identity matches the label on the blood specimen
 - d. Specimens returning to the department with different labels than the originals are not used.
 - e. Alcohol 70% (x2 pads) is used to prep IV tubing before injection of labeled blood.
3. Preparation of Sulfur Colloid
 - a. IV Administration- Boiler for heating medication is emptied and cleaned between each use. The manufacturer's recommendations and the Hospital IV Admixture Preparation Procedure is followed for medication preparation.
 - b. Oral Administration of eggs used for gastric studies may be stored in the refrigerator in the department for one month. Eggs should be checked for freshness before use. Refrigerator must be maintained according to hospital Refrigerator Policy.
 - c. Cleaning of equipment- Boiler and frying pan are washed using solution obtained through the Nutritional Service Department.
4. Equipment

- a. The xenon-system tubing, mask, bag, filter (.8-1.0 micron) are changed between each patient usage. Mask, tubing and filters are disposable and discarded after each patient use. The reusable adapters are sent to Central Service after each use.
 - b. Lead carriers or “pigs” used to transport unit dose of radiopharmaceuticals will have to be disinfected with the housekeeping disinfectant before and after patient use. If a disinfectant cannot be used, the portion of the equipment that comes in contact with the patient is wrapped with Saran wrap and changed between each patient use.
 - c. Any large equipment such as the gamma camera that is in direct contact with the patient will be disinfected with the housekeeping disinfectant before and after patient use. If you can’t disinfect, saran wrap is to be used as in #2 above.
 - d. Patients with a diagnosis of TB or RIO TB are placed in the negative pressure room (2J-13). These patients are made priority.
5. Medications
- a. Medication vials are single use except ones that are radioactive. Radioactive vials are handled very carefully assuring no contamination occurs. All vials are cleaned with two alcohol swabs before entering. These vials are dated and initialed. IV medication is mixed in a designated clean area, aseptically, and according to manufacturer’s recommendation.
 - b. Lead transport carriers, syringe shields, and forceps are cleaned weekly with a housekeeping disinfectant.
 - c. Recapping of needles for technetium is done very carefully. Personnel may recap a needle by one-handed technique or by using recapping devices.

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