INFECTION CONTROL

GENERAL PRINCIPLES

SCOPE

This manual contains policies and procedures that are applicable *hospital wide*.

In addition, most high-risk departments have separate, detailed I.C. policies and procedures. They can be found in each specialty area.

ISOLATION - INSTITUTING AND DISCONTINUING:

1. All categories of isolation precautions may be instituted or discontinued by a Registered Nurse or Infection Control staff according to Infection Control & Isolation Precautions policy/procedure 3. The primary care physician must be notified.

2. Contact Infection Control or your charge nurse if you experience any difficulties in instituting or discontinuing appropriate isolation precautions.

PREVENTION OF CROSS-CONTAMINATION:

1. Each patient's area is considered an individual unit.

2. All personnel will wash hands or perform hand asepsis according to protocol before making any contact with the patients.

3. All floors of the Health Center are considered contaminated.

4. All faucets and insides of washbasins on all sinks in the Health Center are considered contaminated. Areas beneath sinks should not be considered storage areas due to proximity to sanitary sewer connections and risks of leaks or water damage. Cleaning materials are the only items acceptable to be stored under sinks.

5. Floor fans are allowed unless Infection Control has linked their use to the spread of pathogenic organisms or to the development of nosocomial processes. No fans will be allowed in rooms with patients on isolation precautions.

6. Patient refrigerators whether being used for storing medications or foods are to be cleaned with an approved germicidal solution every month. The cleaning will be documented in the departmental/service records

7. Refrigerators dedicated to patient care use are for patient use only. Staff items are not allowed in them. Food items being used by patients that are not consumed are tightly wrapped and labeled with patient name and date. Discard these items when patient is discharged or sooner if indicated.

8. Departments/services are responsible for checking the status of all sterile products kept as supplies.

9. Patient charts are not allowed in patient rooms.

10. Special cleaning required in a department that is in addition to cleaning performed by Environmental Services is performed by the department and documented in departmental/service records.

RATIONALE FOR ISOLATION PRECAUTIONS IN HOSPITALS:

Transmission of infection within a hospital requires three elements: a source of infecting microorganisms, a susceptible host, and a means of transmission for the microorganism.

A. <u>Source</u>

The sources of the infecting agent may be patients, visitors, or employees and include persons with: (A) active disease (B) ones in the incubation period of the disease and (C) those who are colonized by the infectious agent but have no apparent disease (carriers). Another direct source of infection can be the patient's own endogenous flora (autogenous infection). Other potential sources include inanimate objects in the environment that have become contaminated including equipment and medications.

B. <u>Host</u>

The second element necessary for the establishment of an infection is the <u>susceptible</u> host. Resistance to pathogenic microorganisms varies markedly. Persons with diabetes mellitus, lymphomas, leukemia, neoplasia, agranulocytosis, or uremia and those treated with certain antibiotics, corticosteroids, irradiation, or immunosuppressive agents may be particularly prone to infection. Age, chronic debilitating disease, shock, coma, and trauma (accidental or surgical) also influence susceptibility. Some individuals may be immune or able to resist colonization by an infectious agent, others exposed to the same agent may establish a commensal relationship with the infecting organism and become healthy carriers. Others may develop clinical disease.

C. <u>Transmission</u>

Microorganisms are transmitted by various routes, and the same microorganism may be transmitted by more than one route. The differences in infectivity and in the mode of transmission of the various agents form the basis for the several categories of isolation precautions that will follow. There are 5 main routes of transmission ... contact, droplet, airborne, common vehicle, and vector-borne

1. *Contact transmission*, the most important and frequent mode of transmission of healthcare associated infections, is divided into two subgroups:

A. Direct Contact -- this involves direct physical transfer between a susceptible host and an infected person, such as occurs between patient and hospital personnel when they are giving baths or back rubs, changing dressings, or performing other procedures requiring direct personal contact. Direct contact can also occur between two patients, one serving as the source of infection and the other as the susceptible host.

B. Indirect Contact -- this mode of transmission involves contact of a susceptible host with a contaminated intermediate object, usually inanimate, such as contaminated instruments, needles, dressings or contaminated hands that are not washed and gloves that are not changed between patients.

2. *Droplet transmission*, theoretically, is a form of contact transmission. However, the mechanisms of transfer of the pathogen to the host is quite distinct from either direct or indirect contact transmission. Therefore, droplet transmission will be considered a separate route of transmission. Droplets are generated from the source person primarily during coughing, sneezing, talking and during the performance of certain procedures such as suctioning and bronchoscopy. Transmission occurs when droplets containing microorganisms generated from the infected person are propelled a short distance through the air and deposited on the host's conjunctiva, nasal mucosa or mouth. Because droplets do not remain suspended in the air, special air handling and ventilation are not required to prevent droplet transmission; droplet transmission MUST NOT BE confused with airborne transmission.

3. *Airborne transmission* occurs by dissemination of either airborne droplet nuclei (small particle residue 5 microns or smaller in size of evaporated droplets containing microorganisms that remain suspended in the air for a long period of time) or dust particles containing the infectious agent. Microorganisms carried in this manner can be widely dispersed by air currents and may become inhaled by a susceptible host within the same room or over a longer distance from the source patient depending on environmental factors. Therefore, special air handling and ventilation are required to prevent airborne transmission. Microorganisms transmitted by airborne transmission include *Mycobacterium tuberculosis* and the rubeola and the varicella viruses.

4. *Common Vehicle transmission* applies in diseases transmitted through the medium of contaminated items such as food, water, medications, blood, devices and equipment.

5. *Vectorborne transmission* -- occurs when vectors such as mosquitoes, flies, rats and other vermin transmit microorganisms. This route of transmission is of less significance in hospitals in the U.S. than in other regions of the world.

Isolation precautions are designed to prevent transmission of microorganisms by these routes in hospitals. Because agent and host factors are more difficult to control, interruption of transfer of microorganisms is directed primarily at transmission. The policies and procedures in this manual are based on this concept.

Reviewed and Revised August 2009