INFECTION CONTROL PROGRAM: GUIDELINES

I. Definitions and Documentation of Infections
   A. Infection - The replication of organisms in the tissue host which results in overt clinical manifestations.
   B. Community Acquired Infection - Any infection present or incubating at the time the patient is admitted to the hospital and which is not the direct result of a previous hospital admission.
   C. Healthcare Associated Infection (HAI) –
      1) Any infection that is not present and is not incubating at the time the patient is admitted to the hospital. An infection is considered a HAI if the onset of symptoms or signs occurs 48 hours after admission.
      2) Any infection appearing at a new and different site, even though the organism recovered in the cultures are the same as those found in the original site of a HAI.
      3) The appearance of new and different organisms recovered in culture from a previously described site of a HAI.
      4) HAI's include those caused by endogenous organisms carried by the patient into the hospital and by organisms originating in the animate or inanimate environment of the hospital may be designated as nosocomial infections. The term “Healthcare Associated Infection” will include potentially preventable infections as well as some infections that may be regarded as inevitable.
   D. Communicable Diseases – An illness or infectious disease which is capable of being passed from a person, animal or the environment (which would include food and water) to a susceptible individual.
   E. Documented Evidence of Infection
      Documentation is found in the patient’s chart. If a physician indicates in the chart that a HAI is or has been present, this information is recorded as such, whether or not additional supporting data is present.

Chart information available as evidence of infection is:
   a) Admitting diagnosis or discharge diagnosis
   b) History
   c) Physician’s progress notes or medical consult notes
   d) Surgery report
   e) Microbiology reports
   f) Laboratory test results
   g) Pathology report
   h) X-ray findings
   i) Nurses notes

II. Respiratory Infections
   A. Upper Respiratory Infections:
      1. This category includes clinical manifestations of the nose, throat, and ear (singly or in combination). Careful attention must be paid to the incubation period in order to separate community acquired infections that develop after admission and a HAI's.
      2. The “common cold” is considered healthcare associated if it develops 72 hours after admission.
      3. Discharge: Infection not identified in the hospital and occurring within 72 hours after discharge.
B. **Lower Respiratory Infections:**
1. Clinical signs and symptoms of a lower respiratory infection developing 48 hours after admission are regarded as sufficient evidence to diagnose respiratory infection whether or not sputum cultures or chest x-rays are obtained.
2. Existence of four of the following criteria to include C or E is sufficient for diagnosis of respiratory infection.
   a. Cough
   b. Purulent sputum
   c. X-ray finding
   d. Temperature of 38 C (100.4F) degrees or greater
   e. Pleuritic chest pain and/or other positive pulmonary findings
   f. Isolation from sputum or trachea of potential pathogenic bacteria in significant numbers
3. In the neonate, radiographic evidence of pneumonia is sufficient to diagnose lower respiratory infection at least 48 hours after admission.
4. Supra infection of a previously existing respiratory infection may result in a new HAI when a new pathogen is cultured from sputum and clinical or X-ray evidence indicates that the new organism is associated with deterioration in the patient’s condition. Care must be used when distinguishing supra colonization from supra infection.
5. Discharge: Infection not identified in hospital and occurring within 72 hours following discharge or within usual incubation.

III. **Skin and Subcutaneous Infections**
A. **Burn**
   1. Purulent drainage from a burn site or clinical evidence of bacteremia
   2. Supra infection of burns by positive culture findings with pathogenic microorganisms
   3. Colonization of burns as evidenced by isolation by culture of potentially pathogenic microorganisms is not in itself sufficient evidence of a HAI.
B. **Other Cutaneous Infections:**
   1. Development after admission of purulence in skin or subcutaneous tissue irrespective of the results of a culture or even when a culture has not been obtained. This includes non-surgical wounds and various forms of dermatitis and decubitus ulcers.
   2. Positive culture in the presence of any two of the listed clinical signs:
      a. Heat
      c. Swelling
      b. Redness
      d. Tenderness
   3. Discharge: Infection not identified in hospital and occurring within 7 days of discharge.

IV. **Surgical Wound Classifications:**
   **Class I/Clean:** An uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tract is not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow non-penetrating (blunt) trauma should be included in this category if they meet the criteria.
   **Class II/Clean-Contaminated:** An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered.
   **Class III/Contaminated:** Open, fresh, accidental wounds. In additions, operations with major breaks in sterile technique (e.g., open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, non-purulent inflammation is encountered are included in this category.
   **Class IV/Dirty-Infected:** Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present in the operative field before the operation.
V. **Surgical Site Infections (SSI)**

A. **Superficial Incisional SSI**

Infection occurs within 30 days after the operative procedure and involves only skin or subcutaneous tissue of the incision and at least one of the following:

1. Purulent drainage, 2 or 3 laboratory confirmation, from the superficial incision.
2. Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.
3. At least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat and a superficial incision is deliberately opened by surgeon, unless incision is culture negative.
4. Diagnosis of superficial incisional SSI by the surgeon or attending physician.

Do **not** report the following conditions as SSI:

1. Stitch abscess (minimal inflammation and discharge confined to the points of suture penetration).
2. Infection of an episiotomy or newborn circumcision site.
3. Infected burn wound.
4. Incisional SSI that extends into the fascial and muscle layers (see deep incisional SSI).

*Note:* Specific criteria are used for identifying infected episiotomy and circumcision sites and burn wounds.

B. **Deep Incisional SSI**

Infection occurs within 30 days after the operative procedure if no implant is left in place or within 1 year if implant is in place and the infection appears to be related to the operative procedure and infection involves deep soft tissues (e.g., fascial and muscle layer) of the incision, and at least one of the following:

1. Purulent drainage from the deep incision but not from the organ/space component of the surgical site.
2. A deep incision spontaneously dehiscence or is deliberately opened by the surgeon when the patient has at least one of the following or symptoms: fever (>38°C), localized pain, or tenderness, unless site is negative.
3. An abscess or other evidence of infection involving the deep incision is found on direct examination, during re-operation, or by histopathologic or radiologic examination.
4. Diagnosis of a deep incisional SSI by a surgeon or attending physician.

*Notes:*

1. Report infection that involves both superficial and deep incision sites as deep incisional SSI.
2. Report an organ/space SSI that drains through the incision as a deep incisional SSI.

C. **Organ/Space SSI**

Infection occurs within 30 days after the operative procedure if no implant is left in place or within 1 year if implant is left in place and the infection appears to be related to the operative procedure and infection involves any part of the anatomy (e.g., organ or spaces) other than the incision, which was opened or manipulated during the operative procedure, and at least one of the following:

1. Purulent drainage from a drain that is placed through a stab* wound into the organ/space. (*If the area around a stab wound becomes infected, it is not a SSI, it is considered a skin or soft tissue infection depending on its depth).
2. Organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space.
3. An abscess or other evidence of infection involving the organ/space on direct examination, during re-operation, or by histopathologic or radiologic examination.
4. Diagnosis of an organ/space SSI by a surgeon or attending physician.

*National Nosocomial Infection Surveillance definition: a nonhuman-derived implantable foreign body (e.g., prosthetic, heart valve, nonhuman vascular graft, mechanical heart, or hip prosthesis) that is permanently placed in a patient during surgery.*

Table II. Site-Specific Classifications of Organ/Space Surgical Site Infection

<table>
<thead>
<tr>
<th>Infection Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial or venous infection</td>
</tr>
<tr>
<td>Breast abscess or mastitis</td>
</tr>
<tr>
<td>Disc space</td>
</tr>
<tr>
<td>Ear, mastoid</td>
</tr>
<tr>
<td>Endometritis</td>
</tr>
<tr>
<td>Eye, other than conjunctivitis</td>
</tr>
<tr>
<td>Gastrointestinal tract</td>
</tr>
<tr>
<td>Intra-abdominal, not specified elsewhere</td>
</tr>
<tr>
<td>Intracranial, brain, or dural abscess</td>
</tr>
</tbody>
</table>

Table II. Site-Specific Classifications of Organ/Space Surgical Site Infection
Infection Control Program: Guidelines- Page 4

Joint or bursa
Mediastinitis
Meningitis or ventriculitis
Myocarditis or pericarditis
Oral cavity (mouth, tongue, or gums)
Osteomyelitis
Other infections of the lower respiratory tract (e.g., abscess or empyema)
Other male or female reproductive tract
Spinal abscess without meningitis
Sinusitis
Upper respiratory tract
Vaginal cuff

VI. Urinary Tract Infections
A. Bacterial count greater than 100,000 col/ml in a clean catch or catheterized urine specimen is considered an infection if patient is symptomatic.
B. Any growth in a suprapubic specimen is sufficient for diagnosis of UTI, with treatment, regardless if patient is symptomatic or asymptomatic.
C. To maintain consistence in applying criteria for identifying clinical UTI's the following criteria will be followed.
   - Group #1 - Flank pain, CVA tenderness, suprapubic tenderness
   - Group #2 - Dysuria, Burning, Urgency, and Frequency
   - Group #3 - Chills, Fever
The onset of clinical signs and symptoms of UTI (including one from each aforementioned group (1, 2, or 3) is sufficient for diagnosis of a clinical UTI, with or without cultural findings.
D. Discharge: Infections not identified in the hospital, occurring seven days post-discharge and not associated with any outpatient procedure involving manipulation or instrumentation.

VII. Gastroenteritis
A. Clinically symptomatic gastroenteritis with onset after admission and associated with the isolation of an etiologic agent from the stool. The interval between admission and the onset of clinical symptoms must be greater than the incubation period for the agent.
B. Clinically symptomatic gastroenteritis with onset after admission in a patient from whom the etiologic agent was not isolated from a prior stool culture taken on or after admission.
C. Acute onset of diarrhea (liquid stools for more than 12 hours) with or without vomiting or >38°C fever and no likely noninfectious cause (i.e., diagnostic tests, therapeutic regimen, acute exacerbation of a chronic condition, or psychological stress.)
D. Discharge: Infection not identified in hospital and occurring within 72 hours following discharge.

VIII. Septicemia
Any culture-documented septicemia that develops in a patient who was not admitted with such clinical evidence. Such septicemia’s may:
A. Be primary, originating from the blood stream, of a foreign body, which is, or subsequently becomes, microbiologically contaminated or from the manipulation of a foreign body contaminated or subsequently becoming contaminated.
B. Be secondary, originated from an already established site of infection.
C. Post Discharge: Infection not identified in hospital and occurring within one week of discharge when parental lines are in use.

IX. Intravenous Catheter and Needle Site Infections
A. Purulent drainage from the site of an IV needle or catheter, irrespective of the results of culture or whether a culture was even taken.
B. Positive culture without purulence at IV site with any two of the following: heat, redness, swelling, tenderness.
C. Discharge: Infection not identified in the hospital and occurring within 7 days following discharge.
X. **Endometritis**  
A. Purulent cervical discharge accompanied by systemic manifestations of infection or the isolation of an infectious agent from the cervix.  
B. Discharge: Infection not identified in hospital and occurring within 7 days following discharge of hospital.

XI. **Thrush - Candida Albicans**  
A. Lesions of oral cavity (also rectum, vagina, cervix) developing 48 hours after admission.  
   1. Multiple white to creamy patches on fiery-red mucosa.  
   2. Area is painful  
B. Nystatin is ordered.  
C. Positive culture or smear  
D. Diagnosis in progress notes  
The presence of the lesions (A) with (B) or (C), and (B) and (C), or (D) alone is sufficient for a diagnosis of thrush.

XII. Many other possible sites of HAI's must sometimes be considered. Application of the general principles outlined above, however, will generally make classification of these infections possible. It must be reemphasized that clinical impressions/diagnosis (if available) always supercede laboratory or radiological data.

**REFERENCES:**

CDC (Center for Disease Control) “Outline and Definition of Nosocomial Infections.”

University of Iowa “Guidelines for Determining Presence and Classification of Infection.”

American Hospital Association “Infection Control in the Hospital.” 1979 4th Edition


Hospital Infections, Bennett and Brachman, 2nd Edition, 1986

CDC Definition of Nosocomial Surgical Site Infections, 1992: A Modification of CDC Definitions of Surgical Wound Infection

Guidelines for Prevention of Surgical Site Infection, 1999

P:\infcontrol\2JC.05.doc