**HOSPITAL ACQUIRED (NOSOCOMIAL) INFECTION**

Policies

MRSA Policy  
Meningitis Policy  
Blood and body fluid Exposure Policy  
Disinfection Policy  
Glove Policy  
Tuberculosis Policy  
Isolation Policy

**DEFINITION:**

ANY INFECTION ACQUIRED BY A PATIENT IN HOSPITAL 72 hours AFTER ADMISSION IS CONSIDRED TO BE “HOSPITAL ACQUIRED” RATHER THAN “COMMUNITY ACQUIRED”.

**SOME STATISTICS:**

- Affects approx. 10% of all in-patients (10-20% develop symptoms post discharge).
- Delays discharge by average of 11 days costs an average of £3000 (upto £9000) per episode.
- HAI costs 2.8 times no infection.
- Estimated cost of £1,000 million per year to NHS  
- Longer waiting lists.  
- More Nursing time and Energy is required, especially if isolation precautions are required.

Socio-economic burden of HAI (1999)

“UNCLASSIFIED” STATISTICS:

**Nosocomial Infections have an impact on**

- Discomfort and Pain.
  - Prolonged hospital stay.  
  - Deterioration of patient status.  
  - Direct cause of 5,000 deaths per year

Socio-economic burden of HAI (1999)
SIZE OF THE PROBLEM

1 in 10 of hospitalised patients

1. Urinary Tract Infection 30-40%
2. Surgical Wound Infection 17-19%
3. Lower Resp Tract Infection 16-18%
4. Skin and Soft Tissue Infection 6%
5. Bacteraemia 8%

Why do Nosocomial Infections Arise?

• Lowered Immunity. Most Patients Have a reduced Immunity to infection
• Overcrowding
• Inadequate Facilities
• Poor design and Planning of Hospitals
• Under-Staffing which can result in Breakdown of Procedure and to Short Cuts.
• Increased in Both Number and Types of hospital workers who are not Aware of the Importance of Infection Control
• A False Sense of Security about the effectiveness of antibiotics with the corresponding neglect of Aseptic Techniques.
• Admissions of Carriers for Unrelated Medical Conditions (e.g. MRSA carrier admitted to ITU) OR (e.g. Salmonella carrier admitted to a Surgical Ward)
• Transfer to or from Specialized Hospitals or units with a high usage of Antibiotics (e.g. ITU Patients or Oncology Patients). Such Patients carry Bacteria that are often resistant to antibiotics that combat infection.
• Referred from other Hospitals where there may be Endemic Problems

SOURCES:

1. Patients own flora - Endogenous Auto-Infection
2. Environment - Exogenous
3. Another Patient/Staff - Cross Infection
**Principles of Infection Control**

- **1) Eradication of Potential sources / reservoirs of infection.**
  - Isolation Precautions of Infected Patients.
  - Staff infections and Injuries should be reported.
  - Sterilization and Disinfection of sites and surfaces.

- **2) To block whereby Organisms are Transferred to Patient.**
  - Portal of entry -- Universal Precautions
  - Portal of exit ---- Mode of transmission.
  - Examples: Respiratory → Nose and Mouth.
    - Alimentary → Mouth (entry) and Faecal Route (Exit).

- **3) Enhancing Patients resistance to Infection.**
  - Increased Personal Hygiene.
  - Balanced Diet.
  - Antibiotic Prophylaxis and Treatment.

- **4) Training of Hospital Staff**
  - Awareness of Hospital Policies (contents).
  - Awareness of Infection Control Principles.

**RESPIRATORY TRACT INFECTIONS**

33% Associated with a surgical procedure
3% of surgical patients infected.

**DEFINITION**

- Purulent sputum
- Localised chest signs:
- Examination
- CXR
- Fever
  - ∆Lung Function
  - (Microbiology)
BACTERAEMIA

ASSOCIATED WITH

I.V. Cannulation Venflon CVC Pacemakers
Arterial lines
2° to infection elsewhere
U.T.I.
Pneumonia
Wound infection

INFECTION CONTROL

Infection Control Team
Infection Control Doctor (Microbiologist)
Infection Control Nurse

Infection Control Committee
Admin CSSD
Engineers OHD
Domestics Pharmacy
Nursing Medicine
Surgery

Responsible for:

- Infection Control Policies
- Monitoring infection problems
- Rates
- Recommendations to others
- Surveillance

H.A.I. IS INCREASING:

• compromised patients
• ward and inter-hospital transfers
• antibiotic resistance (MRSA, VRE, resistant Gram negatives)
• increasing workload
  • staff pressures
  • lack of facilities
  • ? lack of concern
HAI is inevitable but some is preventable (irreducible minimum)
• realistically reducible by 10-30%
GENERAL PRINCIPLES

Good general ward hygiene:
- No overcrowding
- Good ventilation
- Regular removal of dust
- Wound dressing early in day
- Disposable equipment

HAND WASHING

Probably most important -
After patient contact
before invasive procedures

PREVENTING CROSS INFECTION

If known or suspected on admission to hospital, or detected following admission:

- Isolation (barrier precautions)
- Inform Infection Control team
- Treatment - if appropriate
- Regular surveillance

METHODS OF CONTROL:

often simple:

- handwashing
- cleaning
- audit
- surveillance with timely, accurate information and feedback on rates and trends
- EDUCATION, EDUCATION, EDUCATION!