Advanced Training Program
Infection Prevention and Control

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Training topics of the Advanced Infection Prevention & Control

- This training program is designed for all healthcare workers who are interested in Advanced Infection Prevention and Control program.
  
  o At the end of the training program, the trainee will be have full knowledge of the following:

  o Health care associated Pneumonia
    - CDC\ NHSN :
      - Present on Admission (POA)
      - Healthcare-associated infections (HAI)
      - Pneumonia (PNEU)
      - Date of event
      - Ventilator
      - Ventilator-associated pneumonia (VAP)
      - Location of attribution
      - How to measure the Pneumonia infection rate, VAP infection rate & Ventilator utilization ratio
    - Differences between CAP & HAP & VAP
    - CDC\ NHSN Criteria for Specific Site Algorithms for:
      - Clinically Defined Pneumonia (PNU1)
      - Pneumonia with Common Bacterial or Filamentous Fungal Pathogens and Specific Laboratory Findings (PNU2)
      - Viral, Legionella, and other Bacterial Pneumonias with Definitive Laboratory Findings (PNU2)
      - Pneumonia in Immunocompromised Patients (PNU3)
    - Strategies used for Prevention of Pneumonia infection:
      - Modifying Host Risk for Infection through Increasing Host Defense Against Infection by vaccination (Pneumococcal vaccination)
      - Precautions for prevention of aspiration
      - Prevention or modulation of oropharyngeal colonization
      - Prevention of gastric colonization
      - Prevention of Postoperative Pneumonia
    - The ventilator associated pneumonia bundle prevention as a tool for prevention of VAP:
      - VAP bundle elements selection & how to implement
      - Difference between the VAP bundle for adult, pediatrics
      - How to measure staff compliance to the bundle elements & how to improve their compliance
Health care associated Surgical Site Infection:
- CDC\NHSN Criteria for Defining:
  - DIP/DIS - Deep incisional surgical site infection
  - Organ/space surgical site infection
  - SIP/SIS - Superficial incisional surgical site infection
  - The new updated Surveillance Period for Deep Incisional or Organ/Space SSI Following Selected NHSN Operative Procedure Categories
  - How to measure SSI
- Stratified Risk Index
- Focus Surgical site infection (Indication, how to design & implement)
- Strategies used for prevention of SSI:
  - Patient Preparation
  - Basic Operative Characteristics includes pre-operative surgical scrub & Preparation of the patient’s skin at the operation site
  - Antimicrobial prophylaxis
  - Role of surgeon skill/technique
  - Role of wound drainage
  - Control of Air Quality and Ventilation
  - Order of patients on operating list: dirty/clean cases
  - Management of infected or colonized surgical personnel
  - Traffic control Management inside the OR
  - Surgical site infection prevention bundle:
  - SSI bundle elements selection & how to implement
  - How to measure staff compliance to the bundle elements & how to improve their compliance

Health care associated Intravascular Device Infection:
- CDC\NHSN Criteria for Defining:
  - Central line & Central line associated blood stream infection (CLABSI)
  - Laboratory-Confirmed Bloodstream Infection (LCBI)
  - Differences between LCBI-1, LCBI-2 & LCBI-3
  - Differences between Primary & secondary BSI
  - How to measure CLABIS Rate, BSI rate & catheter utilization ratio
- Strategies used for Prevention of the CLABSI:
  - Catheter site care & patient skin preparations
  - Catheter site dressings
• Indications of Replacement of Administration Sets and Intravenous Fluid depends on the nature of the fluid used
• Care of the injection ports
• Preparation and quality control of intravenous admixtures

- Central line associated blood stream infection (CLABSI):
  • CLABSI bundle elements selection & how to implement
  • How to measure staff compliance to the bundle elements & how to improve their compliance

  ○ Health care associated Urinary Tract Infection:
    - CDC\ NHSN Criteria for Defining:
      • Indwelling catheter, Catheter-associated UTI (CAUTI)
      • Catheter-associated Urinary Tract Infection (CAUTI) (SUTI 1a)
      • Non-Catheter-associated Urinary Tract Infection (Non-CAUTI) (SUTI 1b)
      • CAUTI or Non-CAUTI in patients 1 year of age or less (SUTI 2)
      • Urinary System Infection (USI) (kidney, ureter, bladder, urethra, or tissue surrounding the retroperitoneal or perinephric space)
      • How to measure CAUTI Rate & CAUTI utilization Ratio
    - Strategies used for prevention of UTI & CAUTI:
      • Appropriate Indications for Indwelling Urethral Catheter Use & examples for the indications
      • Proper Techniques for Urinary Catheter Insertion & Maintenance
      • Catheter Change Interval
      • Management of Obstruction
      • Specimen Collection methodology for urine sample & for urine cultures
      • Emptying urine collection bags
  - Catheter associated urinary tract infection (CAUTI):
    • CAUTI bundle elements selection & how to implement
    • How to measure staff compliance to the bundle elements & how to improve their compliance
o **Outbreak Investigation:**
  - Definition of outbreak
  - Differences between outbreak & pseudo outbreak
  - Steps for investigating outbreak:
    - Confirming the presence of an outbreak
    - Alerting key partners about the investigation
    - Performing a literature review
    - Establishing a preliminary case definition
    - Developing a methodology for case finding
    - Preparing an initial line list and epidemic curve
    - Observing and reviewing potentially implicated patient care activities
    - Considering whether environmental sampling should be performed
    - Implementing initial control measures
    - Refining the case definition
    - Continuing case finding and surveillance
    - Reviewing regularly control measures
    - Considering whether an analytic study should be performed
    - Preparing the outbreak report & how to utilize it

o **Occupational Health program outlines:**
  - How to deal with staff exposure to the following diseases:
    - Blood borne diseases (HBV, HCV, HIV)
    - Measles
    - Varicella (Chickenpox) - Zoster (Shingles)
    - Tuberculosis infection
    - Rubella
    - Mumps
    - Influenza
    - Meningitis
    - Pertussis

o **Infection prevention & Control practices in the Intensive care unit:**
  - Preventing Infections in the Intensive Care Unit
    - Dealing with patient endogenous risk factors for acquiring infections
    - Management of Invasive Devices
    - Transmission of Multidrug-Resistant Organisms (MDROs) & How to prevent it
  - Dealing with Patient care equipment/instruments/devices
    - Stethoscope and otoscopes
    - Humidifier fluids
    - Oxygen humidifiers
    - Oxygen masks
Legends Exhibitions

- Nebulizers

- Resuscitation bags
- Electrical and monitoring equipment
- Infusion stands
- Infusion, enteral feed pumps
- Dressing Trolleys
- Suction equipment
- Dirty Equipment
- Suctioning of respiratory tract secretions

- Infection prevention & Control practices in the Endoscopy:
  - Definitions of Endoscope, Endoscopic accessories, Port, Reprocessing, Automated endoscope re-processors (AERs) and/or automated endoscope washer disinfectors (AEWDs), Reprocessing, Reprocessing room
  - Differences between cleaning disinfection & sterilization
  - Endoscopy reprocessing process:
    - Initial cleaning of the endoscope in the procedure room
    - Perform pressure/leak testing after each use according to manufacturer guidelines
    - Final manual cleaning of the endoscope in the reprocessing area to prepare for High Level Disinfection
    - Rinse after cleaning
    - The exposure time and temperature for the high level disinfectants
    - Manual disinfection
    - Rinse after manual disinfection
    - Drying
    - Storage
    - Automated reprocessing
  - Special Precautions during Bronchoscopy
  - Tools used for monitoring the quality of the disinfectant used & Monitoring of the endoscope reprocessing process

- Infection prevention & Control practices in the Dialysis:
  - Basic Infection Control Practices for All Patients on hemodialysis
  - Management of HBsAg-Positive Patients
  - Cleaning and Disinfection procedures required for the hemodialysis area
  - Water Quality test required for monitoring the dialysis water quality (Chemical, bacteriological & endotoxins) how to collect & the recommended intervals for sample collection
  - The recommended routine serological testing for both the hemodialysis patients & the staff
  - Vaccinations required for the staff & the patients
  - Surveillance for infections and other adverse events in hemodialysis unit
Infection prevention & Control practices in the Dental Services:

- Defining Who is at risk in Dentistry & mode of transmission of infection in the dental clinics
- Personal Protective Equipment (PPE) required for both patients & staff
- Sterilization and Disinfection of Patient Care Equipment
- Storage Area for Sterilized Items and Clean Dental Supplies
- Dental Dept. environment
- Aseptic Technique for Single Dose and Multi-dose Medications Vials
- Oral Surgical Procedures
- Handling of Biopsy Specimens
- Handling of Extracted Teeth
- Dental Laboratory