



The Intensive Connection



ESICM Infection Course for Nurses & Allied Healthcare Professionals

Webinar-based course on ICU infection for Nurses and AHPs covering all ICU related topics and focused on enhancing the knowledge base to support N&AHP caring more effectively for ICU patients

Module 1: Risk factors and epidemiology of infection

- General epidemiology of infection: Risk factors, incidence, outcomes
- Update in multidrug resistance (review of most epidemiologically important pathogens and consequences)
- Specific infections
 - Pneumonia (CAP, HAP, VAP)
 - Primary & central line-associated bloodstream infection (CLABSI)
 - Intra-abdominal infections
 - Catheter-associated urinary tract infection

Module 2: General infection prevention and control

- Universal precautions (short)
- Surveillance and isolation
- Hygienic care in the ICU
 - Oral care
 - Bed bath vs. antiseptic impregnated washcloths

Module 3: Targeted infection prevention (I): Ventilator-associated pneumonia

- Pathogenic mechanism
- Preventive measures (incl. chest physiotherapy)

Module 4: Targeted infection prevention (II): Central line-associated bloodstream infection

- Pathogenic mechanism
- Preventive measures

Module 5: Setting up a quality improvement programme to reduce device-associated infections

- Essential steps in a quality improvement initiative
 - Detect the problem (monitoring/surveillance)
 - Select prevention measures
 - Implementation & monitoring

- Process monitoring
- Outcomes monitoring
- Introduction on care bundles and checklists
- Do quality improvement initiatives really make a difference?

Module 6: Early detection of infection and sepsis

- Signs and symptoms:
 - Local signs
 - Catheter insertion
 - Sputum
 - Urine (clinical aspect)
 - Surgical wound inspection
 - Systemic signs
 - altered mental status
 - fever and hypotension
 - haemodynamic alterations (emphasis on trends not thresholds...)
 - Lab: leucocytosis and leucopaenia, c-reactive protein, procalcitonin
- Sepsis screening tools (including qSOFA)
- Diagnostic cultures
 - Targeted (at presumed site of infection: catheter tip, endotracheal aspirates, BAL, urine, wound ...)
 - Blood cultures: indications, how and how many, how frequently

Module 7: Essentials of antimicrobial therapy: Nursing points of interest

- First dose as soon as possible
- Empiric coverage (including difference between de-escalation and switch because of inappropriate empiric therapy)
- Dosing (basics of PK/PD and importance regarding dosing schedules and infusion times)

Module 8: Nebulised antibiotic therapy in mechanically ventilated patients

- Why?
 - Problems with IV administration (short mentioning the essentials): limited lung penetration → inadequate AB concentration at the infection site → bad bacterial kill & trigger for multidrug resistance
 - Promise of nebulising ABs (short mentioning the essentials):
 - reaching the deep lung through trachea-bronchial tree (→ control of bronchial colonisation)
 - bypassing alveolar-capillary barrier (→ higher concentrations at infection site & more efficient bacterial kill)
 - decreased AB diffusion from bronchial/alveolar compartments to systemic circulation due to physiological barriers (→ less toxicity)
- Conditions required to reach the deep lung
 - Problem: Extra-pulmonary deposition of the drug
 - Optimal particle size and type of nebuliser
 - Factors boosting extra-pulmonary deposition
 - Turbulences in ventilatory circuit
 - Patient-ventilator asynchrony
 - Nursing points of interest
 - Short infusion with propofol (reduce patient-ventilator asynchrony)

- Ventilator settings
- Removal of H&M exchanger and conventional humidifier
- Placement of the nebulizer

Module 9: Infection prevention in special populations (I): The immune-compromised and the severely burned patient

- The immune-compromised patient
 - Beyond neutropaenia: the different faces of the immune-compromised status
 - Neutropenia, prolonged corticosteroid therapy, liver disease, ...
 - Symptoms of infection in the neutropenic patients
 - Nursing care aspects to reduce infection risk
- Severe burn injury
 - Inhalation injury and pneumonia risk
 - CLABSI Burn wound sepsis
 - Wound care management

Module 10: Infection prevention in special populations (II): The young and old

- The neonatal ICU patient
 - Why is it different?
 - Cause of sepsis in critically ill neonates
 - Nursing points of attention
 - Outcomes
- The elderly ICU patient
 - Why is the elderly patient different?
 - blunted immune response: need for a different blood culture protocol
 - altered mental status as an early preliminary sign of sepsis
 - Outcomes

Module 11: Infectious hazards for the intensive care HCW

- Hepatitis, tb, HIV, Ebola, influenza

Test Module – Evaluation of the entire course by means of MCQs

At completion:

- Certificate of attendance provided
- Free registration to LIVES 2018 in Paris for the top-ranking performers on the final evaluation test