UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Critical Care Nursing

2021-3-I0101D017-I0101D055M

Aims

At the end of the course student will be able to plan nursing to critical patient, identify priorities of care in different critical setting.

Contents

· Knowledge of the organization, roles and skills of professionals in the emergency field (intra and extra hospital)

· Identify care paths in critical setting: NUE112 – AREU, Emergency Room, Intensive Care Units

· Identify interventions in order of priority with the ABDCE assessment (airways, breathing, circulation, disability, exposure) in adult, newborn and infant.

· Plan and record nursing activity in critical patient with:

Awarness disorder

Respiratory distress

Impaired cardiovascular function

Septic Shock

Traumatic event

Detailed program

The Emergency Department

· Origin of the emergency culture in Italy and evolution

· Planning instruments and nursing data: the “scheda di soccorso”, “scheda di triage” and nursing record

· The assessment of critical patient and the use of scales

· Accountability and skills of critical nurse in using diagnostic and therapeutic protocols in emergency situations and triage

· Triage in Emergency Room: goals, process and skills

Respiratory support in critical care (adult, newborn and infant)

Nursing to patient during:

· Tracheal intubation (nasal, oral)

· Percutaneous tracheotomy

· Tracheal suctioning

· Invasive ventilation: mains methods, management and assessment

· Non invasive ventilation: mains methods, management and assessment (CPAP helmet, mask PSV)

Respiratory and Ventilatory assessment

Arterial blood sample and evaluation

Cardiovascular support in Intensive Care Unit (ICU) (adult, notes in newborn and infant)

Cardiovascular assessment

· Clinical and instrumental monitoring: heart rate (HR), non invasive blood pressure (NIBP), invasive blood pressure (IBP), centrale veonous pressure (CVP), pulmonary artery pressure (PAP), pulmonary artery wedge pressure (PAWP), cardiac output (CO), venous oxygen saturation (SVO?), electrocardiographic (ECG).

Nursing to patient during:

· External cardioversion (CVE) and pacing

Regulatory system process support in critical care (adult, notes in newborn and infant)

Nursing to patient with:

· Impaired Endocrine System Process

· Impaired Thermoregulation

· Electrolyte Imbalance

· Acid Base Imbalance

· Impaired Fluid Volume

· Impaired Kidney Function (continuous veno-venous hemofltration – CVVH)

· Impaired Nutritional Status [nutritional assessment, enteral feeding management (Gastric residual volume (GRV) measurements), managing blood glucose.

Neurological assessment in critical care (adult, notes in newborn and infant)

Impaired Consciousness

· Unresponsive Wakefulness Sindrome (UWS), Minimally Conscious State (MCS), Coma, Long Lasting Coma (LLC), Brain death (notes)

Clinical and instrumental monitoring

· Evaluation scales

· Intracranial pressure monitoring (ICP), electroencephalogram (EEG) [notes]

Pain assessment in critical care

· Evaluation scales

Agitation and sedation

· Evaluation scales

Delirium in ICU

· Risk Factors

· *Screening*

· Assessment

Accountability and skills in:

· Drugs management in critical conditions

· Using the Early Warning Score (EWS) to identify impaired vital functions

· Physical restraint management in ICU: regulations, professional ethics and precedents (individual work)

· Caring patient/caregiver in critical situations, with high levels of stress: communication of "bad news"

· Management of emergency situation (refer to Medical Emergency Team – MET)

· Nosocomial infections prevention in ICU: Ventilator-Associated Pneumonia (VAP), Sepsis e septic shock.

Multi traumatic event management in an extra hospital setting

· Premises

- ABCDE evaluation (primary and secondary)
- Mobilization of a patient with a multi trauma (evaluation and management of legs, arms and spinal column)
- Main devices to move and transport patients with trauma
- Temperature management
- Wound, burn and fracture management

The curriculum include the acquisition for each student of the BLS-D executor certificate, according to guidelines of Regione Lombardia.

Prerequisites

Positive evaluation in the following exams: Fundamentals of Nursing and Midwifery Sciences; Nursing Clinical Methodology; Biomedical Sciences 1; Biomedical Sciences 2; Human Physiology; Clinical Specialty Nursing; Surgical Specialty Nursing.

Teaching form

Lectures, exercises. Group work.

Textbook and teaching resource

BIBLIOGRAFIA ESSENZIALE

AARC Clinical Practice Guideline: Blood Gas Analysis and Hemoximetry *(2013) Respiratory Care, 58(10):1694–1703.*

AARC Clinical Practice Guidelines: Endotracheal Suctioning of Mechanically Ventilated Patients With Artificial Airways (2010). *Respiratory care. Vol. 55 N 6*

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Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU (2018) *Critical Care Medicine*

Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Pediatric Critically Ill Patient: Society of Critical Care Medicine and American Society for Parenteral and Enteral Nutrition (2017). *Journal of Parenteral and Enteral Nutrition*. Vol 41: 706 –742

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Subirana M, Solà I, Benito S. (2010) Closed tracheal suction systems versus open tracheal suction systems for mechanically ventilated adult patients (Review) Cochrane Database of Systematic Reviews

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Wang L, Li X, Yang Z, Tang X, Yuan Q, Deng L, Sun X (2016) Semi-recumbent position versus supine position for the prevention of ventilator-associated pneumonia in adults requiring mechanical ventilation (Review). *Cochrane Database of Systematic Reviews*

Semester

3 Year - 2 Semester

Assessment method

Multiple choice questions: for an exhaustive verification of the program.

Office hours

On appoitment