

Physiotherapy plan for ICU and CCU semester 6th 3rd year

By

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What is Critical Care?

- Critical care (also known as Intensive Care) is the multi professional healthcare specialty that cares for patients with acute, life-threatening illness or injury.
- Most of us will experience a critical illness or injury, either as the patient, family member or friend of a patient.

- Critical care can be provided wherever life is threatened - at the scene of an accident, in an ambulance, in a hospital emergency room, or in the operating room.
- Most critical care today, however, is delivered in highly specialized intensive care units (ICU).
- Critical Care Unit (CCU), Intensive Therapy Unit (ITU), Coronary Care Unit (CCU) may be used to describe such services in a hospital.

- ❑ Critical care is provided by highly experienced and professional
 - physicians
 - nurses
 - respiratory care technicians
 - pharmacists
 - other allied health professionals

- ❑ to provide care that leads to the best outcome for the patient.

- Patients are rarely admitted directly to the critical care unit.
- Rather, they are usually admitted from the emergency room, or surgical area where they are first given care and stabilized.
- The continuum of critical care begins at the moment of illness or injury and continues throughout the patient's hospitalization, treatment and subsequent recovery.

Is Critical Care a new medical specialty?

- critical care evolved from an historical recognition that the needs of patients with acute, life-threatening illness or injury could be better treated if they were grouped into specific areas of the hospital.
- Nurses have long recognized that very sick patients receive more attention if they are located near the nursing station.

- Florence Nightingale wrote about the advantages of establishing a separate area of the hospital for patients recovering from surgery.
- Intensive care began in the United States when Dr. W.E. Dandy opens a three-bed unit for postoperative neurosurgical patients at the Johns Hopkins Hospital in Baltimore
- In 1927, the first hospital premature-born infant care center was established at the Sarah Morris Hospital in Chicago.

- During World War II, shock wards were established to resuscitate and care for soldiers injured in battle or undergoing surgery.
- in 1947-1948, the polio epidemic raged through Europe and the United States, resulting in a breakthrough in the treatment of patients dying from respiratory paralysis.
- In Denmark, manual ventilation was accomplished through a tube placed in the trachea of polio patients. Patients with respiratory paralysis and/or suffering from acute circulatory failure required intensive nursing care.

- During the 1950s, the development of mechanical ventilation led to the organization of respiratory intensive care units (ICUs) in many European and American hospitals.
- The care and monitoring of mechanically ventilated patients proved to be more efficient when patients were grouped in a single location.
- General ICUs for very sick patients, including postoperative patients, were developed for the similar reasons.

- Between 1990 and the present, critical care significantly reduced in-hospital time as well as costs incurred by patients with diseases such as cerebrovascular insufficiency and lung tumors.
- The development of new and complicated surgical procedures, such as transplantation of the liver, lung, small intestine, and pancreas, created a new and important role for critical care following transplantation.

Who are the members of a multidisciplinary critical care team?

☐ Intensivists (Critical Care Specialists)

- An intensivist (also known as Critical Care Specialist) is a doctor with subspecialty training, or equivalent qualifications, in critical care.
- An intensivist directs the care of critically ill and injured patients and works in collaboration with other health care professionals necessary for the care of patients in critical care units.

Critical care nurses

- Critical care nurses provide a high level of skilled nursing for total patient care and often facilitate communication between all of the people involved in the care of the patient.
- Their expertise and continuous presence allows early recognition of subtle, but significant, changes in patient conditions, thereby preventing worsening conditions and minimizing complications that arise from critical illness.
- Because of their close contact with the family and the patient, critical care nurses often serve as the patient's advocate and become integral to the decision-making process of the patient, family, and critical care team.

Pharmacist or Clinical Pharmacologist

- A pharmacist or clinical pharmacologist is a certified specialist in the science and clinical use of medications.
- The pharmacist with specialty training in the ICU is equipped in recognizing the needs and problems specific to the critical care patient and work with members of the health-care team to foster effective and safe medication therapy

Registered Dietitian

- dietitian is a vital part of the medical team that consults with physicians, nurses, therapists, and family members in the ICU.
- The registered dietitian works to improve the nutritional health and promotes recovery of the critical care patient.

Social Worker or Patient Care Co-ordinator

- A social worker works with the ICU interdisciplinary team to provide a link between treatment plans for the critical care patient and family members.
- Special knowledge that is acquired through formal, professional social work education, welfare policies and services, and social welfare systems and community resources guide the practice of social work.

Respiratory Therapist or ICU technicians

- Respiratory therapists work with the critical care team to monitor and promote airway management of the critical care patient.
- This may include: oxygen therapy, mechanical ventilation (breathing machine) management, cardio-respiratory monitoring, and patient and caregiver education

Physiotherapist and Occupational Therapist

- The physical therapist provides services that restore function, improve mobility, relieve pain, and prevent or limit permanent physical disabilities.
- The occupational therapist is trained to make a complete evaluation of the impact of the disease on the activities of the critical care patient at home, in work situations, and recreational activities.
- Both members work cooperatively with other disciplines of the healthcare team to reduce physical and psychological disability of the patient.

What kinds of illness and injury usually require critical care?

- heart attack
- poisoning
- pneumonia
- surgical complications
- premature birth
- and stroke.
- trauma care - care of the severely injured - whether due to an automobile accident, gunshot or stabbing wounds,
- Traumatic spinal cord injuries
- burns
- or an industrial accident.

What kinds of illness and injury usually require critical care?

- GBS
- Cardiac and lung surgeries
- Thyroidectomy
- Tracheostomy
- Oesophagogastrrectomy
- Myocardial infarction

Result of inactivity/ bedrest

- 4 hrs of bed rest: muscles deteriorate
- 8 hrs: contractures start
- 48 hrs: reduced perfusion, increased hemodynamic instability, increased risk for ischemia and injury
- 1 week: 10% loss of strength in HEALTHY volunteers
- Muscles – sarcomeres shorten, reducing contracting force and strength; slow fibers convert to fast

Result of inactivity/ bedrest

- Inflammatory diseases – can cause diaphragmatic contractile dysfunction
- Unloading/ resting diaphragm = decreased endurance
- Sensory deprivation – anxiety, depression, disturbed sleep (therefore medicated)
- Sense of fatigue – leads to self-limitation

Assessments

- Pt name, age, sex and occupation
- History of illness
- Exercise tolerance
- Dyspnea
 - Orthopnea
 - Exertional dyspnea
 - Nocturnal dyspnea
- deformity

Assessments

- Normal breathing
- Accessory muscles
- Chest expansion, full inspiration, expiration, at rest
 - In axilla at level of 4th rib
 - In the epigastric region at level of the 9th costal cartilage
 - In the subcostal region with the tape below the rib

Assessments

- Cough ,
 - productive or
 - nonproductive
- Sputum
 - amount
 - Colour
 - ✓ white
 - ✓ yellow, green(infected)
 - ✓ Blood stained (haemoptysis)

Assessments

- Chest pain, pleurisy
- Edema in the ankle and feet
- Finger clubbing
- Cyanosis
- Chest x ray, ct scan
- Pulmonary functions and test Lab investigations

Assessments

- Musculoskeletal examinations
- and neurological examinations

Physic interventions

- **Breathing exercises**

- Apical and costal
- Spirometer

- **Chest techniges**

- Shaking, vibration, percussion

- **Suctions**

- **Cough active or assissted**

- **Rom exercises , passive, active or active assisted**

Physic interventions

- **Positioning**
- **Early mobilization whenever possible**
- **Pain relief ----- tens**

Thank you