

University of Al- Mustaqbal

College Of Nursing

Critical Care Nursing

4th stage

semester 1
lecture 1

(Introduction to Critical Care Nursing)



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Introduction

- Definition of critical care nursing by the American association of critical care nurses (AACN).
- **Critical Care Nursing:** is that Specially dealing with human response to actual or potential life – threatening problems by:
 - ❑ Ongoing assessment
 - ❑ Early recognition
 - ❑ Management of complications
 - ❑ Forster healing and recovery.



CRITICAL CARE NURSING



The human response can be a physiological or psychological phenomenon.

Critical care:

Critical care: is direct delivery of medical care for a critically ill or injured patient.

- Critical care today is provided to patient by multidisciplinary team of health care professionals who have in- depth education in the specifically field of critical care.
- Critical care involves **highly complex decision-making** and is usually, but not always, provided in a critical care area such as a **coronary care unit, an intensive care unit, or an emergency department.**
- **This team:**
 - Doctors
 - Nurses
 - Therapists
 - Nutritionists and other support staff, builds an environment for healing or dying.

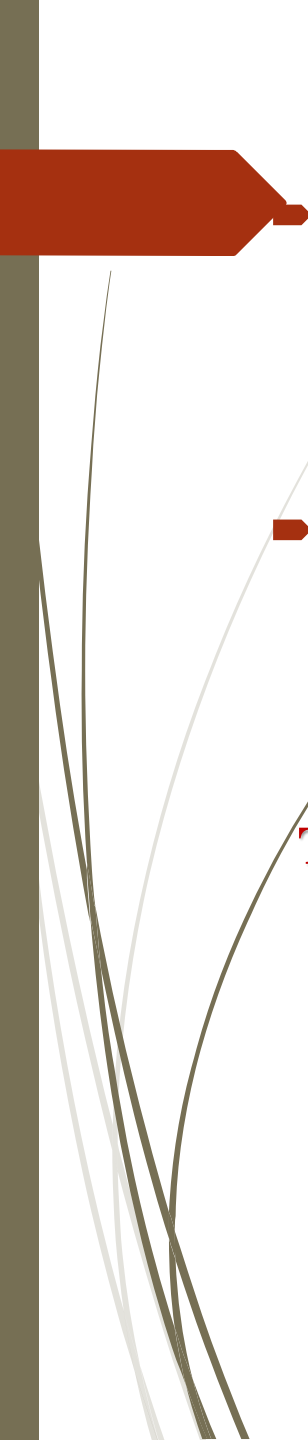


Critically ill patients

The American Association of Critical-Care Nurses : defines critically ill patients as “those patients who are at high risk for actual or potential life threatening health problems.

- The more critically ill the patient is, the more likely he or she is to be highly vulnerable, unstable, and complex, thereby **requiring intense and vigilant nursing care.**”



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- **Critical Care Nurse:** A critical care nurse is a licensed professional nurse who is responsible for ensuring that acutely and critically ill patients and their families receive optimal care .
 - **Critical Care Unit:** is a specially designed and equipped facility staffed by skilled personnel to provide effective and safe care for dependent patients with a life threatening problem.

THE AIM OF THE CRITICAL CARE Unit:-

Designed to meet of acutely and critically ill patients needs

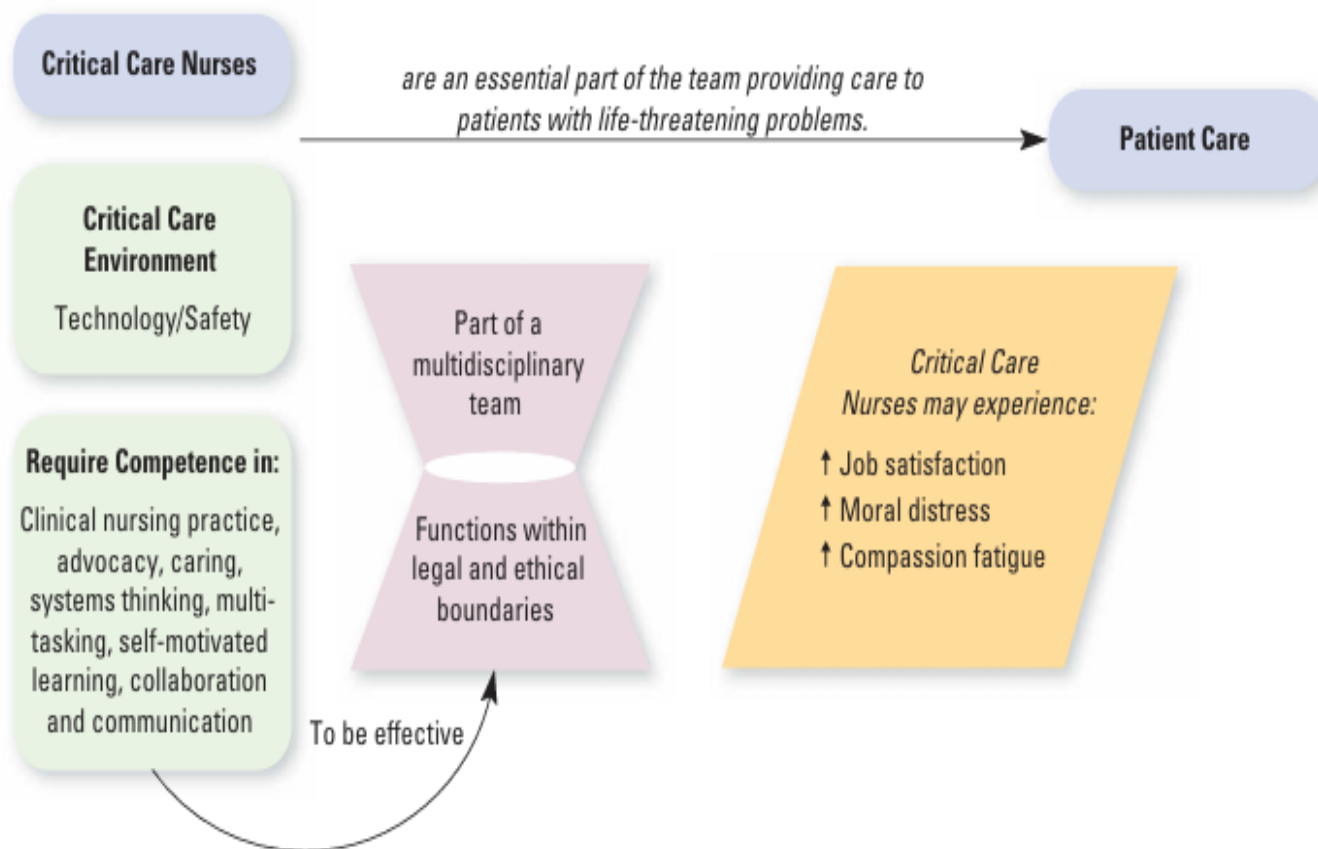
Historical background

- The concept of critical care started with Florence Nightingale.
- Nightingale developed the concept of clustering the most acutely ill patients as far back as the 1800s.
- Florence Nightingale recognized the need to consider the severity of illness in bed allocation of patients and placed the seriously ill patients near the nurses' station.
- 1923, John Hopkins University Hospital developed a special care unit for neurosurgical patients .

Historical background

- 1930's – Introduction of Recovery Rooms.
- WWII & Korean War – Concepts of triage and specialty nursing.
- Late **1950's** – beginning of Critical Care Units to provide specialized care for critically ill patient such as polio, TB victims
. special units were established, equipped with technical equipment to manage the airway and ventilate the patient, and staffed by specialized care providers.
- 1950's & 1960's – CV Disease most common diagnosis
- 1960's – 30-40% mortality rate for MI
- 1965 – 1st specialized ICU – The Coronary Unit.

Critical care overview



Essential for Safety

To limit errors, critical care nurses need to consistently utilize existing checklists and standardized procedures rather than rely on memory

Critical care units (CCUs)

- Critical care units (CCUs) are specialist hospital wards that treat patients who are seriously ill and need constant monitoring.
- These patients might, for example, have problems with one or more vital organ or be unable to breathe without support.



Common Characteristics of Critical Care Units

1. A nurse-to-patient ratio of 1:1 or 1:2.
2. Critically ill patients.
3. Patients with multiple diagnoses.
4. Specialized equipment: Continuous EKG, blood pressure, and oxygen saturation monitors; multiple IV pumps, arterial lines, pulmonary artery catheter, endotracheal tubes, ventilators, chest tubes, urinary catheters, central venous lines, and nasogastric tubes and/or g-tubes.
5. Isolation precautions.
6. Restricted visiting hours.
7. Bedside computers for documentation.



ICU Equipments



Critical care services

The Society of Critical Care Medicine (SCCM) endorsed guidelines for critical care services based on three levels of care:

- **Level I:** Comprehensive care for a wide variety of disorders. Sophisticated equipment, specialized nurses, and physicians with specialized preparation (intensivists) are continuously available. Comprehensive support services from pharmacy, nutrition, respiratory, pastoral care, and social work are nearby. Most of these units are located in teaching hospitals.



Critical care services

- **Level II:** Comprehensive critical care for most disorders but the unit may not be able to care for specific types of patients (e.g., cardiothoracic surgical patients). Transfer arrangements to Level I facilities must be in place for patients with the specific disorders for which the unit does not provide care.
- **Level III:** Initial stabilization of critically ill patients provided but limited ability to provide comprehensive critical care. A limited number of patients who require routine care may remain in the facility, but written policies should be in place determining which patients require transfer and where they ought to be transferred.



Categories of Critical Care Unit

- The Critical Care Unit can be categorized according to patients' age group or medical specialties.

A. Age Group

1. Neonatal
2. Pediatric
3. Adult

B. Specialty

Medical

Cardio-thoracic

Respiratory

Trauma

Surgical

Cardiac

Neurosurgical

Categories of Critical Care Unit

- **CCU:** Critical Care Unit
- **ICU:** Intensive Care Units
- **MICU:** Medical intensive care unit
- **SICU:** Surgical intensive care unit
- **MSICU:** Medical Surgical intensive care unit
- **ICCU:** intensive cardiac, coronary, or cardiovascular care unit
- **CCCU:** critical cardiac, coronary, or cardiovascular care unit
- **CSRU:** cardiac, coronary, or cardiovascular surgery recovery unit
- **NICU:** Neonatal intensive care unit
- **PICU:** Pediatric intensive care unit

System Operation of Critical Care Units

- **The operation of critical care units can be classified into Open System and Closed System**

Open System

- The admitting and other attending doctors dictate management, change management or perform procedures without consultation or communication with a Critical Care Specialist. A Critical Care Specialist may be available for advice or be consulted to provide interventional skills (optional).

Closed System

- Management is coordinated by a qualified Critical Care Specialist. The critical / intensive care specialist has clinical and administrative responsibility. There is a multi-disciplinary team of specially trained critical care staff. The “intensivist” is the final common pathway for all medical decision-making including the decision to admit or discharge patients.

SEVEN Cs OF CRITICAL CARE

- Compassion
- Communication (with patient and family).
- Consideration (to patients, relatives and colleagues) and avoidance of Conflict.
- Comfort: prevention of suffering.
- Carefulness (avoidance of injury)
- Consistency
- Closure (ethics and withdrawal of care).

Principles Of Critical Care Nursing

1. Anticipation

- Recognize higher risk patients and anticipate the requirements, complications and be prepared to meet the emergency.
- All necessary equipment and supplies are mandatory for smooth running of unit.

2. Early detection and prompt action

- The prognosis of patient depends on early detection of variation, prompt and appropriate action to prevent or combat complication.
- Monitoring of cardiac respiratory function is of prime importance in assessments.

3. Collaborative practice

- Critical care nursing as technical sub specialized body of knowledge requiring a team work of ICU staffs.
- Collaborative practices is needed more for a better care of an ICU patient.

Principles Of Critical Care Nursing

4. Communication

- Intrapersonal, inter departmental, inter personal communication has a significant importance in smooth running of unit.

5. Prevention of infection

- Nosocomial infection cost a lot in ICU.
- Critically ill patients are at risk due to immunocompromised state with antibiotic usage and stress , invasive lines, mechanical ventilation, prolonged stay and severity and environment of CCU.

6. Crisis intervention and stress reduction

- Crisis intervention is a short-term management technique designed to reduce potential permanent damage to an individual affected by a crisis.
- Partnerships are formulated during crisis.

Principles of Critical Care Nursing

- It is the duty of a critical nurse to understand the different crisis the patient and family is undergoing and plan for the interventions at the earliest.
- Stress reduction measures are also included in planning a care for patients.

7. Appropriateness : This indicate the degree to which the care and interventions rendered are relevant to patient's clinical needs.

8. Respect and caring - Refers to degree to which the patient and family members are involved in decision making of the care and its implementation.


9. Safety - The degree to which the risk of interruption in the care-environment can be eliminated for patient and others includes health care providers.



Critical care indications

Patients with:

- Physiologically unstable (heart attack).
- Advance respiratory support (mechanical ventilation).
- Support of two or more organ systems failure.
- Chronic impairment of one or more organ systems
- Surgery (Brain, open heart, or an organ transplant).
- Serious burns
- Coma

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- ➡ Support for acute reversible failure of organ { acute renal failure & diabetic ketoacidosis (DKA)}
 - ➡ At risk for serious complications.
 - ➡ Sepsis
 - ➡ Major trauma such as a head injury or spinal cord injury.



Background and classification of critically ill patients:

Definition	Classification
Level 0	Patients whose needs can be met through routine ward care in an acute hospital
Level 1	Patients at risk of their condition deteriorating, or recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from a critical care team
Level 2	Patients requiring more detailed observation or intervention, including support for a single failing organ system or postoperative care, and those 'stepping down' from higher levels of care
Level 3	Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organ systems. This level includes all complex patients requiring support for multi-organ failure

Characteristics of Critically Ill Patients:

The AACN continues by identifying and describing eight characteristics of critically ill patients.

Characteristics	Means	Examples(high)	Examples (low)
1. Resiliency	Ability to recover quickly from illness	Young person recovering fast after surgery	Elderly patient gets weaker after each illness
2. Vulnerability	Risk of being harmed by stress or illness	Cancer patient with weak immune system	Healthy person with low risk
3. Stability	The ability to maintain steady state equilibrium.	Blood pressure and heart rate are normal	Drops BP dangerously despite treatment
4. Complexity	“The intricate entanglement of two or more systems (e.g., body, family).”	Multiple health problems and family stress	One simple problem, like a broken arm

Characteristics of Critically Ill Patients:

Characteristics	Means	Examples(high)	Examples (low)
5.Resource Availability	Extent of resources the patient, family, and community bring to the situation.”	Strong family support and health insurance	No family, no money, no support
6.Predictability	A characteristic that allows one to predict a certain course of events or course of illness.”	Simple infection improving with antibiotics	Unusual reactions or sudden worsening
7. Participation in Care	“Extent to which patient and/or family engage in care.”	Family helps feed, turn, and support the patient	Patient refuses care, family not involved
8. Participation in Decision-Making	“Extent to which patient and/or family engage in decision making.”	Patient speaks with doctors and chooses treatment	Patient is confused; needs someone else to decide

Responsibilities and roles of the critical care nurses :

1. Respect and support the right of the patient or patient's designated surrogate to autonomy and informed decision making.
2. Intervene when the best interest of the patient question.
3. Help Direct care provider.
4. Respect the values, beliefs, and rights of the patient.
5. Provide education and support help to the patient to make decisions.



Responsibilities and roles of the critical care nurses :

6. Represent the patient in accordance with the patient's choices.
7. Support the decisions of the patient or patient's designated surrogate or transfer care to an equally qualified critical care nurse.
8. Intercede for patients who cannot speak for themselves in situations that require immediate attention.
9. Monitor and safeguard the quality of care that the patient receives.
10. Act as a liaison between the patient and the patient's family and other health care professionals.



Standards of Nursing Practices:

- **Assessment**
- **Diagnosis**
- **Plan**
- **Intervention**
- **Evaluation**

Common patient problems

Patients in critical care exposed to a variety of stressors depending on individual differences such as:

- Age
- Gender
- Social support
- Medical diagnosis
- Prognosis

Common Stressors :

- Threat of death.
- Threat of survival with residual health problem.
- Pain or discomfort.
- Lack of sleep.
- Loss of autonomy during daily functioning.
- Loss of control over environment such as (privacy, light ,noise , caring activities of other patients).
- Loss of usual role
- Separation from family
- Loss of dignity
- Loss the ability to express self (intubation)

Ethical Principles In Critical Care

- **Autonomy:** The patient's right to make their own decisions, including refusing treatment.
- **Beneficence:** The nurse's obligation to act in the patient's best interest, promoting good.
- **Nonmaleficence:** "Do no harm" — avoid causing unnecessary harm or suffering.
- **Justice:** Fairness in distributing resources, treating people equally, etc.
- **Fidelity:** Keeping promises and being faithful to commitments.
- **Veracity:** Truth-telling — being honest with patients.
- **Confidentiality / Privacy:** Protecting patient's personal health information.

An ethical dilemma

- Is a difficult problem or situation in which conflict exist about making a morally justifiable decision .
- is a situation in which a person (in this case, a nurse) must choose between two or more conflicting moral principles or values. No option may be clearly “right,” or each choice may compromise some ethical commitment.
- The primary ethical obligations of profession nurses is protection of their patients basic rights .
- The obligation requites nurses to recognize ethical dilemmas even actually or potentially threaten patient ‘s rights and try to find proper solution.



➤ **Example : Informed Consent vs Family Wishes**

➤ **Scenario:**

An adult patient is competent and refuses a surgical procedure. The family, however, is pressuring the healthcare team (including nurses) to proceed, believing the surgery is essential.

➤ **Conflict:**

- *Autonomy*: The patient's right to refuse treatment.
- *Beneficence or Familial expectation*: The family believes the patient is making a mistake and wants the best outcome.

➤ **Possible approach/solution:**

- Ensure the patient has been fully informed (risks, benefits, alternatives).
- Confirm the patient understands the implications of refusal.
- Advocate for the patient's rights, even if family pressures exist.
- Use open, respectful communication with family to help them understand and accept the patient's decision.



Thank
you

