

Care of Critically Ill Child

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Introduction:

Critical care: The specialized care of patients whose conditions are life-threatening and who require comprehensive care and constant monitoring, usually in intensive care units. Also known as intensive care.

Critically ill child: Critically ill child means child who had a instability of homeostatic mechanism, functional immaturity of vital organs and occurrence of multiple problems leads to development of a complex clinical syndrome involving multiple body organs.

Causes for Critically ill : Cardiovascular-Shock, Arrhythmia, Refractory congestive heart failure, Hypertensive emergencies. Respiratory failure status Asthmatics , pulmonary edema, Mechanical ventilation Central nervous system-Status Epilepticus, Coma Encephalopathies, Cerebral Malaria, Raise Intra Cranial Tension Metabolic-Severe disturbance of Sodium, Potassium or Blood gas regulation, Diabetic ketoacidosis Others-Poisoning, Drowning, Trauma , Bleeding, Sepsis

Signs and symptoms of critically ill child: Cyanosis, Cold and Clammy extremities unconsciousness lethargy or derisiveness, excessive irritability, Difficulty in breathing, severe chest in drawing, Stridor in a calm child, Dehydration, Seizure activity, Purpura, Petechiae, Vomiting, Decreased feeding, Decreased intake of fluids urine output decreased.

Assessment of Critically ill child :

- Respiratory monitoring
 - ❖ Respiratory rate - increased or decreased
 - ❖ Nasal flaring
 - ❖ Use of accessory muscle & color
 - ❖ Air entry
 - ❖ Breath sounds
 - ❖ Presence of steridor
 - ❖ Wheeze
 - ❖ crepitation

- Cardiac function monitoring:
 - ❖ Pulse rate - increased or decreased Capillary refilling time prolonged
 - ❖ Heart sound – murmur ECG changed
 - ❖ Central venous pressure may increase Blood pressure – decrease
 - ❖ Capillary refilling time prolonged Heart sound murmur
- Renal function:
 - ❖ Urine output decreased
- Neurological status:
 - ❖ Altered level of sensorium
 - ❖ Unconscious
 - ❖ Coma
- **Ongoing assessment and support:**
FAST HUG assessment parameters for critically ill child. The Components are :
 - ❖ Feeding, Analgesia , Sedation, Thromboembolic prophylaxis
 - ❖ Head of bed elevation , Stress, Ulcer prevention, Glucose control Along with STABLE assessment
 - ❖ Sugar
 - ❖ Temperature
 - ❖ Assisted breathing
 - ❖ Blood pressure
 - ❖ Lab work
 - ❖ Motional support

Above all should be assessed

Management of critically ill child:

- Pediatric intensive care has an important role to give care to the critically ill child
- Cardio pulmonary resuscitation (CPR) and basic life support play vital role in serving the critically ill child.
- **First line management:**
Pediatriac basic life support uses the ABC approach

-Airway, Breathing, circulation before starting BLS assess the child

-Airway: Respiratory obstruction

- Head tilt chin lift : The neck is slightly extended and the head is tilted to place it into a neutral position
- Jaw thrust: In case of neck injury without extending the neck, fingers of each hand are placed under the sides of lower jaw to lift it up and out ward. This techniques are used to clear the airway.

-Breathing: Rescue breathing must be provided

- Mouth to mouth ventilation : pinch the nose keep over mouth over the mouth give two breath (1 : 15) ratio is followed even though 2 to 5 rescue breathing are needed for effective ventilation
- Bag and mask ventilation: self inflating bag of minimum volume 450 to 500 ml should be used to deliver adequate amount of tidal volume and cause visible chest rise



Circulation; if the pulse is absent or < 60 b/min

- chest compression should be connected fifteen compression with 2 rescue breath
- Lower sternum one finger Breath above the xiphisternum
- two figure method for neonates – circling thumb method for infant
- Heel of one or both hands for children
- Depth of compression 1/3 of the anterior posterior chest diameter
- After compressing the chest allows for recoil
- compression rates should be 100/min & 120/min



- a compression ventilation ratio of 15:2 for all infants and children
- if the rescuer is on their own a ratio of 30:2
- continue CPR strong pulse > than 60b/min

post arrest management;

- Referral to intensive care unit
- Measured vaso active infusion
- Eg:- dopamine, adrenalin
- Maintaining adequate blood pressure
- Maintaining temperature
- Provide rest by sedative

Nursing diagnosis and related intervention

- Ineffective airway clearance
- Breathing pattern
- Impaired gas exchange
- Deficit of fluid volume
- Decreased cardiac output
- Ineffective tissue perfusion

Conclusion

- Nurses caring for children must be adopt at identifying when a child is experiencing the beginning stages of critically ill Childs so they can quickly and appropriately interview to prevent deterioration of health condition of child and save their life.

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