

The Nurses Role in Managing Head Injury

Pre-Hospital Care; Recognizing the Injury, Accessing Care

Brain Injury management starts with Emergency Service Providers (Nurses, Doctors, Paramedics, EMT's, First Aid Volunteers). The goal of care is to recognize, treat and transport the brain injured patient by the most appropriate method (ground, lights and sirens, air ambulance). EMS provider responsibilities include;

- Ascertaining the time, location, possible cause of injury and the events preceding the accident
- Initial assessment and rapid management of Airway, Breathing and Circulatory problems
- Obtaining a history of allergies, medications and past medical history
- Performing baseline measurements of vital signs, Level of Consciousness and Glasgow Coma Scale
- Administering Oxygen, IV fluids, emergency medications and C-Spine Precautions
- Communication with a care facility/hospital and/or administering appropriate emergency medications
- Stabilizing the patient's condition in the field, en-route to hospital and while awaiting care in the E.R.

In the E.R.; Minimizing Secondary Injury

Nurses in the E.R. are instrumental in the acute management of the brain injured patient. Here, the goal is to prevent secondary injury to the brain which can occur as a result of intracranial bleeding, brain swelling, a lack of Oxygen, increased or decreased Blood Pressure. Minimizing or preventing secondary injury increases the chance of preserving brain function. Expectations of the Emergency Room nurse include;

- Rapid triage assessment, assigning CTAS Score - facilitating appropriate access to medical care
- Establishing and maintaining an airway; particularly if there are head or neck injuries
- Providing Oxygen and/or mechanical ventilation and/or assisting with intubation to maintain breathing
- Frequent monitoring of vital signs (Blood Pressure, pulse, respirations, Blood Oxygen Saturation)
- Frequent monitoring of Neurological status (Glasgow Coma Scale)
- Performing a thorough 'head to toe' assessment to identify and treat all injuries
- Obtaining a complete medical and surgical history
- Providing IV fluids, blood products and medications as ordered by the physician
- Arranging for laboratory and diagnostic testing as ordered by the physician (CT, MRI, U/S)
- Anticipating, recognizing and responding to changes or deterioration in patient condition
- Reporting lab results, diagnostic imaging results and changes in condition to the physician
- Providing emotional support and teaching to the patient and their family or significant others
- If discharged home from the E.R., nurses must provide discharge teaching re; signs and symptoms that require further medical care, scheduled follow up assessments and the expected course of recovery.

In the Acute Care Hospital; Recovery and Discharge Readiness

Hospitalization of the patient with a mild brain injury may be very brief – or not occur at all. In the acute care setting (ICU or hospital ward) the goal of preventing secondary brain injury continues. Nursing responsibility includes ongoing, scheduled assessments of vital signs, neurological status, treatment of injuries and carrying out of Doctor's Orders. Significant changes in the patient condition must be recognized, reported and documented. Once the medical condition has stabilized, the focus of nursing care becomes preparing the patient for discharge home or to community care. Nursing responsibilities in the acute care hospital setting include;

- Identifying need for and facilitating access to all areas of rehab (P.T., O.T., Mental Health)
- Assessing patient and interviewing family to determine changes in aptitude, personality and ability
- Assessing, treating and documenting evidence of changes or deficits in memory loss, coping skills, anger or impulsivity, headaches, confusion, disturbances in vision, balance or muscle strength

- Providing education and support and expectation for recovery to the patient, family and caregivers
- Consulting with and/or providing referrals to Community Nurse Case Managers

In the Community; Accessing Appropriate Resources

Nurse Case Managers (Community Health, Home Care, WCB, Community Mental Health and Occupational Health Nurses) perhaps play the most significant role in the management of the mild brain injury patient. A structured discharge and follow-up plan is essential. In the community and at work, the goal of care now becomes improving outcomes by using the health care management strategy of resourcing the right services at the right time. The Nurse Case Manager is responsible for;

- Collaborating with acute care providers and family to determine the injuries and degree of impairment
- Developing a care plan based on assessments by all disciplines including Neuropsychology, Physio, O.T., Rehabilitation and Vocational Specialists, Social Work, Mental Health, Nurses and Doctors
- Determining the community and outpatient services required
- Facilitating timely access to appropriate services and managing the performance of all providers
- Facilitating early access to financial benefits through insurance agencies and employers
- Assessing the outcome of all services and interventions, revising the plan of care as necessary
- Providing intervention to safety issues; identifying potential for accidents, self harm or harm to others
- Performing ongoing assessment of impairments, reporting changes to the appropriate care provider
- Encouraging self care, adaptive strategies, cognitive reframing, problem solving and goal setting
- Developing return to work programs based on job demands and physical/mental capability
- Integrating Vocational Rehabilitation needs with Occupational Rehabilitation program
- Supporting worksite assessment, intervention, education and modification as necessary
- Tailoring/altering and assisting a return to work once maximum medical achievement is attained
- Assessing and managing secondary symptoms such as depression, anxiety, drug use, relationship issues
- Educating family regarding symptoms and expected outcomes; referring for support and counseling

The Glasgow Coma Scale at a glance

The Glasgow Coma Scale (GCS) is a widely used system for scoring the level of consciousness (LOC) of a patient who has had a brain injury. Eye-opening, verbal response and motor responses are scored and totaled. The lowest possible score is 3 and the highest is 15. A score of 3-4 indicates severe brain injury; 9 – 12 indicates moderate injury; and a score ≥ 13 is associated with mild brain injury.

Eye opening (E)	Verbal response (V)	Motor response (M)
4=Spontaneous 3=To verbal stimuli 2=To pain 1=No response	5=Normal conversation 4=Confused conversation 3=Inappropriate words 2=Incomprehensible speech 1=No response	6=Obeys commands for movement 5=Purposeful movement to pain 4=Withdraws in response to pain 3=Flexion to pain (decorticate posturing) 2=Extension to pain (decerebrate posturing) 1=No response