National MajorTrauma Rehabilitation Group

NMTRG Guidelines for the assessment and rehabilitation of the Major Trauma patient

Discipline: Speech and Language Therapy

Guideline: Management of traumatic Brain Injury

The Speech and Language Therapist should have knowledge of;

- Clinical presentation after TBI (motor, sensory, cognitive-communication, behavioural and perceptual deficits)
- Basic understanding of CT and MRIs, link to neuro-anatomy and clinical presentation
- Primary versus secondary injuries
- Primary injuries:
    - Mild traumatic brain injury, contusions, diffuse axonal injury, countercoup, subarachnoid haemorrhage, subdural haemorrhage, hypoxic brain injury, etc.
- Secondary injuries, causes and possible consequences
    - Secondary hypoxia, hypovolemia, cerebral oedema
    - Seizures
- Intracranial dynamics of TBI:
    - Monroe Kellie doctrine and the effects of intracranial pressure (ICP) elevation (mass effect, midline shift, hydrocephalus, herniation)
    - Normal values and relationship between ICP, cerebral perfusion (CPP) and mean arterial pressure (MAP)
    - The concept of cerebral blood flow, autoregulation and risk of cerebral ischemia
- Neurosurgical management including: conservative, surgical such as decompressive craniectomy/ craniotomy, extra-ventricular drain, etc.
- Tracheostomy:
    - Clinical indication
    - Weaning process through to decannulation
- The nutritional status and feeding method (oral, alternative)
- Mental Capacity Act (2005) and Deprivation of Liberty and Safeguards Act (DOLs)
- The need for family and carer involvement in every stage of the patient's journey/ recovery
- The need for Multidisciplinary assessment and management
- How aphasia, apraxia of speech, dysarthria. cognitive-communication and cognitive impairment may affect a patient's ability to communicate
- How communication impairment may reduce the ability to demonstrate emergence from a disorder of consciousness

The Speech and Language Therapist should be able to recognise;

- Precautions associated with TBI e.g no bone flap, skull base fracture, any other injuries or co-morbidities
- Signs of deterioration in neurological status (e.g. change in GCS, pupil size) and escalation process
- Signs of respiratory deterioration/compromise in relation to the TBI/GCS etc and escalation process
- Signs of sympathetic storming
- Changes in tonal presentation: posturing patterns, spasticity
- Need for caution in managing attachments (e.g. EVD, tracheostomy, feeding tubes)
- The impact of prolonged immobility and potential secondary complications: pressure sores, contractures, chest infections, confusion, etc.

- Other factors which could have an effect on cognitive function (e.g. alcohol withdrawal, delirium, medication side effect, sodium levels, infection, sunken flap syndrome)

The Speech and Language Therapist should be able to offer the following assessments (RCSLT 2020 & RCP PDOC National Clinical Guidelines 2019, NSF for long-term conditions DH 2005)

- Risk assessment in line with all of the above
- Functional assessment that is appropriate to the patients' physical, cognitive, communication and behavioural capacity
- Functional assessments may be used to identify neurological impairments through observation when formal assessment of impairments is not possible
- Assessment and contribution to diagnosis of communication impairments using standardised and non-standardised tools, including but not limited to:
    - Assessment of expressive communication (speech, language, voice, writing)
    - Assessment of receptive communication (auditory comprehension, reading comprehension)
    - Assessment of cognitive communication skills/ higher level language skills
    - Assessment of social interaction
    - Awareness of how mood and behaviour may impact on communication
    - Assessment for use of Assistive or Alternative Communication (AAC)
    - Support communication for informed decision-making and mental Capacity assessments
    - Assessment of Prolonged Disorders of Consciousness (PDOC) in line with RCP Guidelines:
        - Considering relevant factors to determine optimal time to start formal and/or informal assessments.
        - Ensuring MDT approach and friends/family involvement
        - Using a range of formal assessments such as Wessex Head Injury Matrix (WHIM), Coma Recovery Scale Revised (CRS-R)
        - Identify need for oral desensitisation if bite reflex present
        - Assess for presence of communicative behaviours in DOC patients (e.g. command following, yes/no responses, choice making, expressing a preference in context, facial expression, gestures, mouthing or verbalising, use of low/high tech AAC)
- Assessment and contribution to diagnosis of swallowing disorders (dysphagia) with bedside swallowing assessment
- Further investigation of dysphagia with instrumental exam as appropriate (e.g Videofluoroscopy and Fibreoptic Endoscopic Evaluation of Swallowing)
- Tracheostomy weaning assessment (including assessment of impact of swallowing function on secretion management)

The Speech and Language Therapist should be able to offer the following interventions (RCSLT 2020 & RCP PDOC National Clinical Guidelines 2019, NSF for long-term conditions DH 2005)

- Goal directed individualised communication rehabilitation programme using specific strategies to optimise function and independence
- Advise on how to reduce barriers to communication and interaction

- Advise, demonstrate, practise and provide strategies on the most effective way to engage communication
- Advise on assistive or alternative communication aid devices
- Goal directed behavioural rehabilitation management (e.g. ABC)
- Involved in best interests decision-making as part of MDT
- Dysphagia treatment (e.g. specific swallowing rehabilitation, strategies, diet modification)
- Management of bite reflex with provision of oral desensitisation programme
- Family/ carer/ other professional training
- Input to Multi-professional meetings and ensuring and MDT approach to treatment
- Brain injury education
- Tracheostomy management:
    - Secretion management
    - Weaning through to decannulation where appropriate
    - Referral to specialist teams (e.g. ENT, max fax, etc)

The Speech and Language Therapist is expected to complete this assessment and intervention;

- From an early stage post injury in Critical Care, HDU and at all points in the care pathway as clinically indicated

The Speech and Language Therapist should have knowledge of additional services including;

- Headway and other brain injury charity organisations
- Local specialist teams (e.g. pain team, brain Injury team, orthotics, neuropsychiatry and neuropsychology, neuro navigator, older adult liaison team, tracheostomy specialist team, hand therapy team)
- Falls team
- Major Trauma signposting team / legal signposting
- Citizens advice bureau
- Sensory impairment teams
- Drug and alcohol team
- Homeless team
- Youth support for violence intervention
- Adolescent outreach service
- Patient support groups / group rehabilitation
- TBI case management
- Social Servoces

The Speech and Language Therapist understands how to access the following **pathways** and use the Patient Categorisation Tool (PCAT) as needed:

- Specialist Inpatient Category A
- Specialist Inpatient Category B
- Specialist Outpatient Multidisciplinary
- Specialist Outpatient Single Discipline
- Non specialist Inpatient Category C
- Community Specialist MDT
- Community Generic MDT
- Vocational Rehabilitation

- Falls prevention
- Social Care

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