Brain injury guidance

Introduction

This guidance is to support speech and language therapists (SLTs) working with people with acquired brain injury (ABI) across the lifespan.

The information in these pages should act as clinical guidance and provides a summary of current literature; it is not exhaustive. SLTs should continue to use evidence-based clinical judgement alongside the guidance.

See the member resources page for useful resources relating to working with individuals with a brain injury.

For professionals looking for information about speech and language therapy and ABI and the role of SLTs, see **RCSLT's downloadable document: 'The role of speech and language therapists (SLTs) within a multidisciplinary team for acquired brain injury'**.

For general information about how SLTs can support individuals who have had a brain injury and their friends, families and/or carers, **refer to the public webpages**.

Note that the term 'carer' has been used throughout to refer to parents, carers, legal guardians etc.

If you have any suggestions or feedback on these pages, please **contact us**.

Definition

ABI is commonly defined as any injury or trauma to the head and/or brain which disrupts the function of the brain (NICE, 2023; Centers for Disease Control and Prevention, n.d.).

An ABI may involve the skull, brain or its protective membranes. The injury can result in speech, voice, language, communication and/or eating, drinking and swallowing (EDS) difficulties.

A number of terms are often used when talking about ABI including ‘brain injury’, ‘acquired brain injury’, ‘traumatic brain injury’ and ‘head injury’. Much of the literature comes from countries such as Australia, Canada and the USA, where specific distinctions between traumatic brain injury (TBI) and other ABIs are necessary in order to access certain health insurances and adequate support due to different expected trajectories and prognoses.

For this guidance, the NICE (2023) definition for ABI will be used, which includes any brain injury that has occurred after birth and excludes congenital conditions and neurodegenerative conditions such as motor neurone disease or multiple sclerosis. Cerebral palsy will not be counted as an ABI in this guidance. See **RCSLT motor disorders guidance** for further information.

Some services may see specific types of strokes, such as a subarachnoid haemorrhage, but not mild brain injuries in their scope of practice. It is also recommended to refer to the definition and criteria for the particular service you work in.

This guidance will be in reference to TBI primarily, though the principles are applicable to all ABIs. See the RCSLT clinical guidance pages such as **stroke guidance** for information relating to non-traumatic injuries.

Terminology and aetiology

ABI is the umbrella term for a range of brain injuries, which can be either traumatic or non-traumatic.

Traumatic brain injury (TBI)

TBI refers to an event which results from an impact or blow to the head (e.g. from a fall or a road traffic accident). TBI can be a result of either closed or open injury to the head, or both.

Closed head injury describes trauma that does not result in the opening of the skull. It typically gives rise to diffuse damage in the brain following a blunt force trauma (e.g. falls, road traffic accidents or sports injuries) and/or acceleration-deceleration injuries (e.g. whiplash, violent shaking, assaults or abusive head trauma).

Open (or penetrating) head injury is where the skull is fractured and foreign objects may penetrate the brain tissue. These tend to result in more focal damage. Examples of an open head injury include a gunshot wound, stabbing or injury caused by an explosion.

Non-traumatic brain injury

Non-traumatic brain injury is caused by events that occur inside the body, such as:

- neuro-infections and neuro-inflammation such as encephalitis, meningitis, brain abscess, auto-immune disorders or COVID-19 (Agoston, 2024; Michael et al, 2023) (see **RCSLT long COVID guidance** for further information)
- cardiovascular issues such as stroke and other vascular events, or cardiac arrest resulting in hypoxia (see **RCSLT stroke guidance** for further information)
- hypoxia due to respiratory arrests, non-fatal drowning, hanging attempts, suffocation or carbon monoxide poisoning causing neuronal cell death
- neuro-oncology diagnoses/conditions such as glioblastoma, meningioma, medulloblastoma, metastatic tumours or radiotherapy damage resulting in brain necrosis
- neurotoxicity such as carcinogens (heavy metals, toxins) or substance misuse (alcohol, drugs), which can lead to toxic encephalopathy
- metabolic disorders such as severe hypoglycaemia or hypokalaemia, which can cause hypoxia and neuronal damage.

Mild traumatic brain injury (mTBI) and concussion

mTBI is a form of brain injury that is typically temporary, though recovery can take several months to years (Centers for Disease Control and Prevention, n.d.).

The recently updated American Congress of Rehabilitation Medicine (ACRM) now includes suspected mTBI in their diagnostic criteria (Silverberg et al, 2023).

The terms mTBI and concussion are generally used interchangeably, with concussion more commonly applied in paediatric contexts and sports-related injuries regarded as a specific sub-type (Levin & Diaz-Arrastia, 2015). The National Institute for Health and Care Excellence (NICE, 2023) guidance for head injury does not distinguish between the two and according to the ACRM, “the diagnostic label ‘concussion’ may be used interchangeably with ‘mild TBI’ when neuroimaging is normal or not clinically indicated” (Silverberg et al, 2023).

The World Health Organization (WHO) recognises mTBI as a major public health concern, highlighting the importance of accurate diagnosis and management to prevent long-term impact (Holm et al, 2005).

mTBI symptoms may not appear immediately and can develop over hours, days or even weeks following the initial event. Therefore, ongoing monitoring for new or worsening symptoms is essential.

Typical features of mTBI include:

- Glasgow Coma Scale (GCS) score of 13–15 out of 15
- loss of consciousness (LOC) lasting up to 30 minutes
- post-traumatic amnesia (PTA) lasting less than 24 hours
- normal neuroimaging findings.

Only around 10% of reported mTBIs or concussions involve a LOC, meaning that clinicians should not rely solely on this indicator (Bielanin et al, 2024).

Common symptoms include:

- headache
- dizziness
- nausea
- fatigue
- blurred vision

- sensitivity to light or noise
- difficulty concentrating or remembering
- mood changes (e.g. irritability, sadness or mood swings).

Persistent post-concussive symptoms (PPCS) or post-concussion syndrome (PCS)

PPCS or PCS may be used to refer to ongoing cognitive, physical and emotional symptoms that last for more than three months after an mTBI or concussion. They can persist for months or even years (Reddy, 2011). Younger individuals or those with prior concussions may take longer to recover.

Chronic traumatic encephalopathy (CTE)

CTE is a type of brain injury caused by repeated brain injuries including concussions over time (Stern et al, 2011; CDC, n.d.). It may be experienced across the lifespan, for example by boxers who take repeated blows to the head, by those who play contact sports or by victims of domestic abuse.

It can take years or even decades for CTE symptoms to show and CTE is usually only identified on postmortem. There is no way of predicting which individual in sport will develop CTE and currently treatment is mostly focused on prevention.

Key features of CTE are progressive degeneration of brain tissue and abnormal build-up of tau protein (a different distribution pattern from that seen in Alzheimer’s disease).

Common symptoms include:

- memory loss
- confusion
- impaired judgment
- aggression or mood swings
- depression or suicidal thoughts
- increased risk of developing neuroprogressive conditions including Parkinsonism and dementia.

Severity

ABI severity is often categorised according to the severity of the medical diagnosis, not the impact. TBI severity is typically determined using tools such as the Glasgow Coma Scale (GCS) (Teasdale &

Jennett, 1974), which measures level of consciousness at the time of injury: mild (13-15); moderate (9-12); severe (8 or less), not the consequences (NICE, 2025).

However, “medical severity does not always correlate with functional severity” (DeMatteo et al, 2014) and does not capture the broader more significant consequences (physical, cognitive, communication, psychological) following an ABI. An individual with a mild TBI can experience severe and long-term consequences in daily functioning and similarly, someone with a severe TBI may experience only mild consequences.

70-90% of all treated ABIs are defined as mild (Cassidy et al, 2004) and health-related quality of life (HR-QoL) is impacted regardless of the severity of the medical diagnosis (DeMatteo et al, 2014).

Statistics

There is currently no definitive data on the prevalence of ABI in the UK. Challenges with the way in which ABIs are recorded affect the accuracy of the statistics for this clinical population. Most epidemiological studies rely on the ICD-10 classification of head injury and hospital admission rates (Headway, 2018). However, many ABIs, particularly mTBIs/concussions, would not be captured under this classification and are unlikely to be admitted to hospital. Some studies have shown up to 50% of these individuals have persisting effects a year after injury (Bloom et al, 2022). This can lead to an underestimation of the true incidence, prevalence and long-term needs of individuals with an ABI.

The statistics below provide an overview of the current data in the UK:

- ABI is a leading cause of death and disability in people aged under 40 in the UK (Headway, n.d.; APPG, 2018; UKABIF, 2025; Parsonage, 2016).
- Every year there are approximately 335,000 hospital admissions with an ABI in the UK. That is approximately 918 a day, or one every 90 seconds. By comparison, someone is admitted to hospital with a stroke every four minutes (Headway, n.d.).
- An estimated 1.3 million people in the UK live with an ABI-related disability (UKABIF, 2025).
- The annual cost of ABI to the UK is an estimated £43 billion a year. The total NHS annual budget is only a quarter of that (UKABIF, 2025).
- Wellbeing costs associated with ABI are an estimated £91.5 billion in the UK (APPG for ABI & UKABIF, 2025).
- ABI accounts for 3.4% of all Accident and Emergency attendances in the UK (Gerritsen et al, 2018).
- TBI has the highest incidence of all common neurological disorders and poses a substantial public health burden globally (Maas et al, 2022).
- Approximately 40,000 people are admitted to hospital with a TBI every year in the UK (Headway, n.d.).
- Approximately 90% of ABIs are mild (Cassidy et al, 2004).
- Cognitive communication disorder (CCD) is the most common sequelae after TBI. An estimated two thirds of people with an ABI may have CCD (MacDonald, 2017; Togher et al, 2023).
- Cases of ABIs are up 10% and head injuries are up 6% over the last 10 years. This is in comparison to strokes, which are up by 4% (UKABIF, 2025).

Risk factors

ABI can affect anyone, at any age. However, certain populations, characteristics and behaviours can significantly increase the risk of an ABI and/or can influence recovery outcomes.

Age

The frequency of hospital admissions for TBI is highest in older people (aged ≥65 years), followed by children and adolescents (Maas et al, 2022). Infants and toddlers are at highest risk due to falls, abusive head trauma and accidents (Allison et al, 2017).

Up to 50% of people with an ABI are aged under 15. This is likely due to risk-taking behaviours, sports injuries and road traffic accidents (Kennedy et al, 2017). Executive functions, including impulse control, judgement and decision making, continue to develop into our mid twenties. This continued development has been linked to increased risk taking behaviours that can result in an ABI (Romer et al, 2011; Leshem, 2016).

Younger people (aged 20 to 40) tend to have more behavioural and mood changes with CTE, while those who are older (aged 50+) tend to have more cognitive difficulties (McKee et al, 2015).

Older adults are at risk of increased falls due to balance issues, vision impairment, medications or frailty and tend to have more complex recoveries as a result of longer-lasting symptoms and co-morbidities, as well as higher mortality rates (Chan et al, 2013; Thompson et al, 2006; Harvey & Close, 2012).

Gender

Men are at higher risk of an ABI than women (nearly twice as likely) (UKABIF, 2025), although the risk for women is increasing (Maas et al, 2022). This may be due to increased participation in contact sports, high-risk jobs and combat, as well as to increased likelihood of risk-taking behaviour and violence.

Women may experience more frequent concussion-related symptoms (e.g. in contact sports) (Maas et al, 2022). Women are more likely to have a poorer and longer recovery due to hormonal influences (Wunderle et al, 2014).

Health-related conditions

Certain medical conditions increase the likelihood of brain injury or complicate recovery (e.g. surgical intervention for cardiovascular conditions).

Conditions such as epilepsy or cerebral palsy heighten the risk of falls and seizures.

Certain conditions can be associated with potential for repeated or multiple insults to the brain, e.g. sickle cell disease or epilepsy, with resulting complex and varied patterns of effects.

People with a history of an ABI are at much higher risk of having further brain injuries and second-impact syndrome, where a second concussion occurs before the first one resolves.

Having a TBI roughly doubles the risk of experiencing another injury and having two TBIs increases the risk of a third injury eight-fold (Parsonage, 2016).

Neurodivergence

McDermott et al (2008) found a 40% higher rate of hospital treatment for head, face and neck injuries in autistic children compared to non-autistic children and Gibbs et al (2023) found an increased risk of violence faced by autistic adults. Children with ADHD have been found to have a higher risk of ABI when compared to their siblings (Wu et al, 2024).

Neurodivergent characteristics may not only increase the risk of an ABI but may also have an impact on neurorehabilitation, for example by requiring different approaches to learning and adaptation.

Substance misuse and mental health conditions

Alcohol and drug misuse can impair judgement, coordination and reaction time, increasing the risk of falls, accidents and assaults which may lead to an ABI (Parsonage, 2016). Approximately one third of ABI hospitalisations involve alcohol intoxication during injury (Adshead et al, 2021).

Depression can also be associated with a higher likelihood of self-inflicted brain injuries (Parsonage, 2016).

Socioeconomic risk

Broader social and environmental influences play a role in ABI prevalence. Low socioeconomic status (SES) and poor living conditions can give rise to reduced access to healthcare and healthy behaviours, which leads to delays in diagnosis, treatment and outcomes (Sakayan et al, 2024). A lower socioeconomic background may lead to a higher risk of head injury. This is seen as independent of race and ethnicity (Johnson & Diaz, 2023).

Adverse childhood experiences may also increase vulnerability (Wilson et al, 2024).

Race and ethnicity

The global majority (short for 'people of the global majority') is individuals who are not or do not consider themselves to be white, which is approximately 80% of the global population. This challenges the historical and Eurocentric focus on 'white' as the default or norm and is a way of decolonising language. The term aims to be a more empowering and accurate collective term than others like 'ethnic minority' or 'BAME'.

Individuals from the global majority have been found to be at a higher risk of sustaining an ABI and have a higher risk of subsequent death and managing with other functional outcomes such as dealing with chronic pain (Brainkind, n.d.).

Individuals from the global majority are less likely to be discharged to inpatient rehabilitation, and when they are discharged into this setting, they are likely to be discharged more slowly (Johnson & Diaz, 2023).

Individuals from the global majority have also been shown to use rehabilitation services less than the global minority (Asemota et al, 2013).

Occupation and environment

A number of occupational factors can affect an individual's risk of sustaining an ABI. These include:

- high-risk jobs such as construction, military, firefighting and law enforcement
- military and combat exposure such as blast injuries, head trauma or repetitive concussions
- exposure to toxic chemicals or carbon monoxide
- working at heights (increased risk of falls).

Environmental factors can also affect the risk. Urban areas have higher rates of motor vehicle accidents, violence and falls, while rural areas can have limited access to specialist trauma care, which could increase the severity of untreated injuries.

Behaviour and lifestyle

Certain behaviours significantly raise the risk of ABI. For example, reckless driving or driving under the influence of drugs or alcohol increase the risk of road traffic accidents, which can lead to an ABI.

Violence is the third-most common cause of TBI globally (Maas et al, 2022). Violence and domestic abuse increase the risk of head trauma (Brainkind, 2024). Additionally, having a TBI can predispose an individual to violent behaviour and criminal offending.

Sports and recreational activities

Taking part in high-contact sports such as football, rugby, boxing, hockey or horse-riding, or in extreme sports such as motorbike riding, skateboarding, skiing or mountain biking can increase the risk of a TBI.

Improper or reduced use of protective gear and returning to the sport too soon after a concussion or head injury also lead to an increased risk of a TBI.

Impact of ABI

Impairment to the brain following an ABI can be categorised as focal damage or diffuse damage (or both):

Focal damage is where damage is confined to a specific area of the brain (e.g. brain tumour, ischaemic stroke, stab wound).

Diffuse damage is where the damage is more widespread. Diffuse damage may occur over multiple regions of the brain (e.g. diffuse axonal injury, hypoxia, concussions).

In TBI, the brain can be injured not only at the location of impact (coup) but also on the opposite side (contrecoup) as it moves within the skull. For example, hitting your forehead on the windscreen in a car accident may injure both frontal and occipital lobes. Assessment and intervention should consider both localised and widespread damage when understanding the effects.

Diffuse axonal injury (DAI) is the most common type of injury to the brain in TBI. Widespread damage to the brain’s white matter disrupts communication among nerve cells in the brain. This leads to the release of neurochemicals that can cause further damage. This damage may be temporary or permanent and recovery can take months or years.

Primary effects following the initial physical trauma to the brain may include:

- skull fractures
- lacerations and contusions
- hypoxaemia
- hypertension
- intracranial haemorrhage
- raised intracranial pressure.

These can lead to:

- inflammation
- swelling
- reduced blood flow
- metabolic changes
- herniation.

Brain injuries often result in widespread and long-term impairments, including:

- physiological issues such as fatigue, persistent headaches, chronic pain, dysphagia, respiratory difficulties (that may require ventilation/tracheostomy), epilepsy and sensory changes
- cognitive difficulties including problems with memory, attention and concentration, processing speed, executive dysfunction and cognitive fatigue
- emotional and psychological impact such as emotional lability, personality changes, loss of confidence or identity and behavioural changes
- communication difficulties including aphasia, cognitive communication disorder, dysarthria, apraxia of speech, dysphonia and dysfluency.

These impairments often co-occur, are often lifelong and can significantly impact daily functioning.

Lifelong impact

ABI is a lifelong chronic condition. As a result of medical advances, more people are surviving the initial trauma, but this leads to a growing population who are living with long-term consequences, including difficulties with communication, cognition, emotional wellbeing, social relationships and EDS (Holloway & Tasker, 2019). ABI can also disrupt typical developmental trajectories, particularly when sustained during childhood or adolescence (Kurowski et al, 2023).

While some people make a good recovery, many require long-term rehabilitation, workplace/education support and social services. In severe cases, ABI can lead to profound disability or even death. Even mild ABI can lead to serious challenges if left unaddressed.

The term 'hidden disability' is often used to describe individuals whose impairments may not be immediately apparent or visible. Individuals may appear to manage simple and daily tasks yet struggle with complex tasks such as making significant life decisions or managing finances. They may also perform adequately on formal assessments, which are typically conducted in quiet, structured environments and do not reflect the demands of real-world communication. As a result, their true difficulties may go unrecognised and their needs may be overlooked.

SLTs play a vital role in identifying and helping with these challenges. SLTs can support individuals in improving communication, EDS and quality of life, thereby reducing social isolation, promoting reintegration and alleviating the broader societal and economic burdens of ABI.

Early intervention, ongoing support and greater awareness are essential to improving outcomes and fostering independence for people living with an ABI. Communication and EDS support may be required at many points in the life of someone with an ABI and, as such, they may require longer term or frequent re-referrals to speech and language therapy. A flexible, long-term model of speech and language therapy input is needed to ensure continued progress and participation (NICE, 2025).

However, speech and language therapy services do not always reflect this long-term model, with often inconsistent access.

Reduced social interactions and social networks and increased isolation

The high presence of cognitive and communication difficulties leads to vulnerability and increased problems in social participation (Togher et al, 2023), with social withdrawal being one of the most significant long-term effects.

Social isolation can be the largest impact following an ABI, particularly chronically, and has been shown to carry the same mortality risk as long-term smoking (Byrne et al, 2022). Loss of employment and reduced social networks further contribute to isolation (Cuthbert et al, 2015).

As experts in communication and interaction, SLTs are well placed to support individuals to reduce or avoid this risk and mitigate social disengagement.

Impact of ABI on families, friends and caregivers

ABI not only affects the individual, but also their family, friends and caregivers, who often experience a wide range of emotional and practical challenges (Ramussen et al, 2020; Whiffin et al, 2021; Grayson et al, 2021). These can include:

- stress, frustration and anger
- sudden role reversals and shifts in family roles and responsibilities
- feelings of isolation and resentment
- strained relationships, sometimes leading to them breaking down
- reduced participation in leisure activities
- ongoing emotional strain
- financial strain due to financial changes or barriers, loss of primary earner
- grief and sadness of family member(s) who must come to terms with the 'loss' of how their loved one was before the ABI and acceptance of how they are now.

These multifaceted impacts can significantly affect the wellbeing of those supporting a person with an ABI and may influence relationship dynamics, daily routines and overall quality of life for all involved. This is often further compounded by communication breakdown.

The support of family and caregivers is crucial for an individual's recovery; however, they will likely need comprehensive assistance, training and resources to sustain their role and their own wellbeing.

Loss of employment and/or education

Return to employment or education after an ABI is complex. Research shows a decline in employment rates post-ABI (Kreutzer et al, 2003). Only 41% of individuals employed before a brain injury return to work within two years and those who don't by then are unlikely to return at all. Even among those who do, sustaining employment can remain difficult (Radford et al, 2018). Employment post injury can be on significantly fewer hours and not at a pre-injury level of responsibility (Libeson et al, 2022). Cognitive and behavioural changes play a significant role in employment retention after an ABI and influence how employers perceive an individual's employability (Bricout & Bentley, 2000). Individuals with an ABI often face stigma when being hired, comparable to those with mental health conditions such as schizophrenia (Craven et al, 2024). Subsequently, they may require additional support to return to work, to return to positions previously held or to access financial support (e.g. PIP or carer's allowance).

Children and young people (CYP) face challenges when returning to school after an ABI (at any severity) including fatigue, memory problems, slower processing and challenges with keeping up with schoolwork (Anderson et al, 2021). CYP need tailored return-to-education programs and accommodations to support academic success and social reintegration. Many CYP have special educational needs post-injury, but not all receive appropriate educational plans or funding, underscoring gaps in support. These gaps may contribute to excessive absenteeism and can be further confounded by pre-injury factors.

Changes to identity

ABI may cause an individual's sense of identity within their family, social, education and work environment to alter, usually negatively (Beadle et al, 2016). This is particularly of importance for ABI in CYP as adolescence is a critical period of identity formation.

Individuals may no longer be able to engage in traditional roles, responsibilities and dynamics within their families and peer groups (e.g. primary earner or caregiver). This may further lead to depression or feelings of helplessness.

Societal and economic cost and burden

ABI poses significant societal and economic challenges worldwide, impacting healthcare systems, productivity and the quality of life of individuals and their families (Parsonage, 2016).

The economic burden extends beyond direct medical costs, encompassing indirect costs such as lost work time and early retirement, which account for the majority of expenses associated with mBI.

Addressing the societal and economic burden of an ABI requires a comprehensive approach, emphasising prevention, efficient healthcare delivery and robust support networks for individuals and their families.

Reduced health-related quality of life (HR-QoL)

General QoL post injury is reported as lower after an ABI than for other groups with long-term and life-changing health conditions (Horneman et al, 2005).

Changes to communication and EDS can lead to a reduced HR-QoL as they often lead to withdrawal from interactions, which can subsequently impact on building and maintaining relationships (romantically, platonically, or collegiately) and therefore lead to a reduction in social networks and increased social isolation. There may also be increased vulnerability with increased risks when forming new relationships, including exploitation and harm.

Health inequality

The hidden nature of ABI contributes to health inequalities for this vulnerable group, as many services are unequipped to meet their needs and may inadvertently reject or fail to adequately support individuals who have sustained an ABI (Horneman et al, 2005).

Mental health

All types of mental health disorders have been found to be more common following an ABI (Schwarzbold et al, 2008; Bryant et al, 2010):

- depression occurs in 90% of cases
- post-traumatic stress disorder (PTSD) occurs in 70% of cases
- panic attacks occur in 40% of cases
- aggressive behaviour is seen in 30% of cases.

This increased incidence is also evidenced in children and young people (Massagli et al, 2004; McKinlay et al, 2010).

ABI doubles the risk of developing mental health problems (Parsonage, 2016). However, 60% of individuals with an ABI had not been asked about their mental health in the first three years following the ABI (Faltynek et al, 2019).

Challenging behaviours

Communication impairments after an ABI are a significant predictor of aggression, alongside frontal lesions and executive deficits, with verbal aggression (35% prevalence) often triggered by frustration in expressive or pragmatic domains (Alderman, 2007).

Depression

Depression occurs more frequently in individuals with an ABI than in the general population. However, it is often underdiagnosed due to atypical presentation and symptom masking after an ABI.

If an individual's cognitive function is not improving as anticipated, this may be an indicator of depression and merits exploration. Missed diagnosis, and therefore lack of support and intervention, can impede an individual's progress in neurorehabilitation and is associated with poorer functional recovery and long-term outcomes (Faltynek et al, 2019).

Schizophrenia

There is a significant association between an ABI and schizophrenia (Malaspina et al, 2001). Individuals are more likely to develop schizophrenia if they have had an ABI (Malaspina et al, 2001; Molloy et al, 2011; Fazel et al, 2014; Cheng et al, 2024).

Suicide risk

Suicide risk is significantly higher in individuals following an ABI compared to the general population (Fann et al, 2004; Fazel et al, 2014), with the risk remaining lifelong. Psychological support for emotional regulation and mental health management is required.

Timonen et al (2002) found that after controlling for other possible influences such as socioeconomic background, having an ABI as a child or young person more than doubled the risk of psychiatric disorder in adulthood.

Substance misuse

ABI is strongly linked to substance misuse, such as drugs and alcohol (McKinlay et al, 2010; Parsonage, 2016) both due to pre-injury factors (e.g. previous substance use history) as well as ABI consequences affecting behaviour and coping skills, which can lead to poorer ABI outcomes (Bjork & Grant, 2009; Olsen & Corrigan, 2022).

Criminal justice system

ABI is significantly overrepresented in the criminal justice system (Parsonage, 2016). Research has found:

- Having a TBI increases the risk of offending by at least 50% (Parsonage, 2016).
- 65% of prisoners in the UK have a history of TBI (Williams et al, 2010). This is six times the rate within the general population (Parsonage, 2016).
- 70% of those with a history of TBI experienced their first injury before they committed their first offence (Williams et al, 2010).
- Up to 87% of individuals within the criminal justice system have an ABI (Linden et al, 2024).
- Up to 72% of young offenders have an ABI (Hughes et al, 2015).
- Up to 60% of the prisoner population have communication difficulties (Bryan et al, 2007).

TBI can lead to impaired social communication and behavioural dysregulation associated with an increased risk of crime, especially reactive violence in response to a perceived threat (Williams et al, 2018). Having a TBI can predispose an individual to violent behaviour and criminal offending (Maas et al, 2022).

Individuals with an ABI, as vulnerable adults, require appropriate support throughout the criminal justice process, from arrest to court proceedings and potential imprisonment. However, many professionals within the system remain unaware of the often-hidden disabilities that can follow an ABI. A 2022 Freedom of Information (FOI) request by UKABIF revealed that 10 out of 44 police forces in England and Wales had no screening, assessment or referral pathways in place for identifying and supporting those with ABI. Speech and language therapy can play a valuable role in supporting this population (Togher et al, 2004).

Routine screening for ABI should be implemented at key stages in the criminal justice system, enabling timely referral to appropriate services. This is essential not only for ensuring fair access to justice but also for reducing the risk of re-offending, especially for those who may never have received intervention previously.

Access to registered intermediaries should also be made available for individuals with an ABI when needed, to facilitate effective communication throughout legal proceedings. Tailored support should continue upon release, to support reintegration into the community and reduce the rate of re-offending. See RCSLT justice settings for further information.

Homelessness

ABI is prevalent in the homeless population compared with the general population, with up to 53% of people who are homeless having a brain injury (Topolovec-Vranic et al, 2012). 90% of those report having an ABI before becoming homeless (Oddy et al, 2012).

Communication needs are more common among the homeless population than the general population (Andrews & Botting, 2020). SLTs working in ABI have a role to minimise the risk of homelessness happening and to help and support those who are now homeless. SLTs and other healthcare professionals must assess housing stability when working with an ABI and identify future risks.

See **RCSLT's policy statement on speech and language therapists working in homelessness settings** and the **RCSLT guidance on homelessness and speech, language and communication** for further information.

Increased risk of mental capacity changes

There is an increased risk of changes in mental capacity following an ABI (Malhi et al, 2023; Knox et al, 2017), due to the 'frontal lobe paradox' (George & Gilbert, 2018). This is where individuals with frontal lobe damage can perform well in structured tests and interviews but struggle significantly with everyday tasks due to impaired executive functions.

ABI-related sequelae, including executive dysfunction, reduced insight, memory and attention difficulties, aphasia and CCD, can all impact an individual's ability to make decisions.

ABI acts as a causative nexus (the demonstrable link between a person's impairment and their inability to make a specific decision) and individuals may frequently fall under the Deprivation of Liberty Safeguards (DoLS) framework.

The hidden nature of an ABI may not always make it obvious when supported decision-making is needed. Importantly, capacity after an ABI may fluctuate depending on the time, day and context and can improve over time as individuals recover and adapt through rehabilitation and compensatory strategies. Consequently, capacity should be carefully monitored, regularly reviewed and re-assessed to reflect any changes.

Neurodivergence

There are notable overlaps between neurodivergent conditions and ABI and it is important to try to pull these apart.

ABI can result in psychoneurological changes that increase the chances of ADHD developing. ADHD secondary to ABI is a common neurobehavioural consequence, occurring in up to 50% of individuals post-injury (Stojanovski et al, 2021). CYP who have had a serious ABI are 25% more likely to develop ADHD but may not present for up to a decade later (Narad et al, 2018).

Additionally, there is an increase in the incidence of an ABI among people who are neurodivergent and SLTs should be particularly alert to any new or changing cognitive difficulties in this population, as these may be indicative of an ABI and require a different approach to neurorehabilitation. See RCSLT autism guidance for more information.

Increased risk of dementia

It has been shown that TBI significantly increases the risk of dementia (Simmonds et al, 2025) with an estimated increased risk by two to four times, even with mild CTE (Shively et al, 2012). It is thought that genetics may also play a role (Guo et al, 2000).

Neurorehabilitation

“Rehabilitation is a process of assessment, treatment and management by which the individual (and their family/carers) is supported to achieve their maximum potential for physical, cognitive, social and psychological function, participation in society and quality of living” (BSRM, 2014).

Principles of neurorehabilitation

Neurorehabilitation is grounded in principles based on Hebbian learning (Hebb,1949) that “neurons that fire together wire together”. These include intensive repetitive tasks, errorless learning, functional task-specific activities and timing of input. Following a brain injury, neuroplasticity naturally occurs and can be enhanced through targeted neurorehabilitation. SLTs can utilise this opportunity to maximise recovery, regain function and optimise social participation (Zotey et al, 2023).

Neurorehabilitation is a key component of the brain injury care pathway. It is an interdisciplinary, problem-solving approach based on a biopsychosocial model of healthcare. It is not just therapy, but education and support to optimise functional recovery, maintenance, self-management and adaptation to loss and change. It is a process by which individuals and their family/carers are supported to achieve their maximum potential to function and participate in society and enjoy a good quality of life (BSRM, 2014; APPG, 2018; WHO, 2021; Wade, 2025).

Rehabilitation is person-centred and holistic, working towards the individual’s goals. These goals will vary and depend on the stage of recovery, the condition, the trajectory and the individual.

Specialist rehabilitation services play a vital role in management and recovery and have been shown to be cost-effective (Turner-Stokes et al, 2019). After immediate medical and surgical needs are met, neurorehabilitation allows the needs of the complexity of the condition and sequalae to be addressed to maximise recovery and support transition back into the community. Neurorehabilitation can take place in a number of contexts and settings, with each offering distinct advantages. Settings include acute hospital care, inpatient neurorehabilitation units, outpatient clinics and community-based care.

See ‘Speech and language therapy across the neurorehabilitation pathway’ for more detail.

Neurorehabilitation phases

Neurorehabilitation can be divided into three stages of recovery, each requiring tailored interventions:

- (hyper) acute, focussing on medical stabilisation, usually within an acute setting
- subacute, focussing on maximising functional restoration and neurorehabilitation, in an inpatient setting, on a specialist neurorehabilitation ward or in the community
- chronic phase, addressing ongoing and long-term consequences of ABI within the community.

There are also different levels of complexity within rehabilitation service provisions (BSRM, 2015), which are followed by England, Wales and Northern Ireland. Scotland has regional neurorehabilitation units across the country. Referral and admission criteria vary, as does the provision of local community neurorehabilitation services.

Level 1 is tertiary 'specialised' rehabilitation services currently through NHS England/ Department of Health and Social Care specialist commissioning. These are usually inpatient. Services can be further subdivided into level 1a – high physical dependency, level 1b – mixed dependency, and level 1c – patients with cognitive/behavioural disabilities.

Level 2 is local specialist rehabilitation services, often inpatient or in the community.

Level 3 is local non-specialist rehabilitation services, often inpatient or in the community.

It should be noted that regional differences are found in the levels of neurorehabilitation.

See **BSPRM rehabilitation guidelines** for more detailed guidelines including key features for a specialist rehabilitation service. These outline the need for a multi-professional team that has non-specialist training in rehabilitation and works in a coordinated way towards an agreed set of goals.

Major trauma pathway

For major traumatic injuries there is the major trauma care pathway, which includes rehab prescription (RP). See **NICE's guideline on major trauma service delivery**. This supports those with a severe injury medically. However, many people with an ABI may just attend Accident and Emergency, may not be diagnosed or may not even attend hospital (e.g. concussion). This places them at risk of missed diagnosis and missing out on access to timely intervention and care.

Clinical recommendations

This section provides an overview of the speech and language therapy approaches and principles for working clinically with individuals with an ABI alongside their health, education and social care professionals, family, friends and carers.

This is a consensus clinical recommendations document. The information detailed in these pages should act as clinical guidance and is not exhaustive. Clinicians should continue to use their own evidence-based clinical judgement and refer to local policies and pathways.

For general information about how SLTs can support individuals who have had an ABI and their friends, families and/or carers, **refer to the webpages for the public**.

See also **RCSLT's downloadable document: 'The role of speech and language therapists (SLTs) within a multidisciplinary team for acquired brain injury' for additional information**.

View our communication after ABI top tips factsheet.

People with an ABI may present in all clinical settings and across the lifespan. SLTs are well placed to support these individuals as well as their family, friends, carers and the MDT working with them. There is a wide breadth of levels an SLT might work on, ranging from supporting an individual who is ready to return to work to helping an individual make basic choices between two options.

SLTs play a vital and complex role in supporting individuals with an ABI as well as their network including social, education and health care professionals, carers, friends and families.

An SLT's role can vary depending on:

- the stage of recovery (acute or chronic)
- the individual's specific needs and goals
- the setting and context in which you are seeing the individual.

SLTs are integral members of multidisciplinary teams, providing expert support in communication, eating, drinking and swallowing (EDS), advocacy and education, not only to the individual but to their support network as well. The SLT role extends beyond clinical intervention to include training, education, promotion of self-advocacy, awareness-raising and medico-legal contributions, to ultimately improve the QoL of individuals with an ABI and their loved ones.

Co-existing conditions

Due to the complex nature and possible widespread impact of brain injury, a person with an ABI may also have co-existing communication disorders and/or EDS such as those listed below.

The most common changes after an ABI are cognitive changes (executive dysfunction or impaired social cognition) as the frontal lobes are the most frequently damaged due to them being the most susceptible to damage. This is the same in both adult and paediatric populations and will impact on how individuals engage.

Cognitive communication disorders (CCDs)

CCDs are the most common sequelae after TBI. Subsequently, the most prevalent communication difficulty is CCD (MacDonald, 2024). It is estimated that two thirds of individuals with an ABI may have CCD (MacDonald & Wiseman-Hakes, 2010; MacDonald, 2017). **See the RCSLT CCD guidance for further information**.

Aphasia

Aphasia is most commonly seen after a stroke or focal brain injury in the areas of the brain predominantly involved in language processing (ie frontal, temporal and parietal regions). The occurrence of aphasia after an ABI is relatively low in relation to CCD. Occurrence of aphasia is estimated at 2-30% and it will usually resolve within 12 months (McDonald et al, 2014). The predominant linguistic pattern is consistent with mild anomic aphasia, characterised by mild–moderate confrontational naming deficits and mild linguistic deficits across spontaneous speech, auditory verbal comprehension and repetition (Elbourn et al, 2019). If someone has word-finding difficulties, or finds it hard to follow conversations, it may not necessarily mean they have aphasia or a pure linguistic impairment; it may be impacted cognitive functioning, but may be CCD (McDonald et al, 2014). See the **RCSLT aphasia guidance** for further information.

Motor speech disorders

Motor speech disorders are most commonly seen after a stroke or focal brain injury in the areas of the brain predominantly involved in speech production (i.e. motor cortex or cerebellum). Cognitive impairments which are likely to also occur will impact on engagement and adoption of strategies (Williams et al, 2021). See the **RCSLT motor speech disorders guidance** for further information.

Voice disorders

Voice issues largely relate to disruption to the cranial nerves for laryngeal function or may be secondary to prolonged intubation or the need for tracheostomy placement. A person's voice can also appear altered due to dysprosody or disruption to the intonation pattern. See the **RCSLT voice disorders guidance** for further information.

Eating, drinking and swallowing (EDS)

Psychosocial effects of an ABI can impact on EDS and its recovery if areas involved in EDS are affected (e.g. brainstem). For further information about EDS in general, see the **RCSLT eating, drinking and swallowing guidance**.

Assessment

Assessments and interventions following an ABI are not linear processes; they are dynamic and evolving. Areas requiring further assessment may often only emerge once goals are set and intervention has begun. For example, psychoeducation may be necessary before assessment can be completed.

It is important to remember:

- Real life communication situations should be explored to reflect realistic cognitive, social and environmental demands.
- Communication and cognitive recovery are typically much slower than physical recovery due to the complexity and distributed nature of cognitive and communication functions in the brain.

Identification of communication changes

SLTs play an important role in exploring, assessing and differentially diagnosing changes in communication following an ABI. These may relate to speech, language, voice, social communication, cognitive-communication or a combination of these.

It is important to understand the individual’s pre-injury communication skills and developmental communication stage versus their post injury skills to determine how an ABI is affecting the individual’s ability to function in their life. This helps ensure support is appropriately targeted and person-centred.

Differential diagnosis

SLTs help to distinguish between different types of communication impairments. Help may be required to differentiate between purely cognitive impairments and CCD. Common conditions that may co-occur with an ABI include aphasia, dysarthria, apraxia of speech, dysphonia, CCD and/or EDS difficulties.

ABI is complex and communication difficulties may arise from language impairment, cognitive impairment or a combination of both. These elements often overlap and cannot always be clearly separated. Collaborative working within a multidisciplinary team (MDT), using an interdisciplinary approach, is therefore essential to develop a comprehensive understanding of an individual's communication and/or EDS needs across different settings and contexts.

Communication difficulties after an ABI rarely occur in isolation. They are multifactorial and interact with emotional, cognitive, physical and environmental factors. A whole-person, holistic approach is therefore vital for effective, person-centred outcomes. SLT involvement should be embedded within MDT assessment and intervention (NICE, 2025). MDT planning should focus on holistic recovery by developing shared hypotheses, identifying priority goals and supporting the generalisation of communication skills across environments. SLTs contribute to the broader understanding of the individual, as part of an MDT, by providing insights into communication, cognition and functional abilities as part of a comprehensive neurorehabilitation plan, supporting an individual to continue personal relationships and reintegrate into society.

Assessment and intervention will vary depending on the phase of recovery. As a result, the MDT members involved may differ at each stage. This is not an exhaustive list but the MDT may include:

- acute phase: dietitians, doctors, medical consultants, nurses, occupational therapists (OTs), pharmacists, physiotherapists (PTs), psychologists and SLTs
- inpatient rehabilitation phase: dietitians, family members, neuropsychologists, neurorehabilitation consultants, OTs, PTs, rehabilitation nurses, SLTs, social workers and therapy assistants
- community phase: case managers, community nurses, solicitors, dietitians, GPs, neuropsychologists, OTs, PTs, SLTs, therapy assistants and support workers.

Speech and language therapy assessment

Key principles of speech and language therapy assessment include:

- person-centred and holistic: tailored to the individual's needs, background, identity and goals
- functional and context-based: performance in structured tasks may not reflect real-life communication (e.g. success at home but difficulty in workplace or academic demands)
- 360-degree information gathering: input from the individual, family, friends and professionals to build a complete communication profile.

The purpose of assessment is not solely to identify what is difficult, but to also identify why, when and how it affects daily functioning. There is a need to understand what has changed for the individual following their ABI. This forms the basis for effective, person-led intervention.

Key areas to explore during initial evaluation include:

- pre-injury communication profile (style, strengths, challenges, typical communication environments and demands)
- any known pre-existing conditions
- current communication abilities and areas of difficulty
- functional impact on daily life, relationships, independence and specific meaningful contexts (e.g. workplace or academic communication breakdowns)
- environmental, emotional and social factors, including confidence, identity and support systems
- the person's own perspective, awareness, goals and understanding of ABI and rehabilitation
- observations in varied communication contexts
- educational background and pre-morbid developmental history
- MDT and family perspectives on communication changes.

Assessment tools

There is no single, definitive assessment for communication after an ABI. While standardised tests exist for specific impairments (e.g. aphasia, motor speech disorders), informal and dynamic assessment, including observation, interviewing and functional tasks, often provides more clinically relevant information.

Informal assessments may include:

- clinical interviews
- discourse analysis
- social communication assessment
- video-based baseline recording
- self-rating scales
- observation in context (particularly useful for individuals with cognitive-communication disorders).

Considerations when working with individuals with an ABI

There are a number of aspects that SLTs need to bear in mind when working with individuals with an ABI.

Executive dysfunction

Executive dysfunction is highly prevalent after TBI due to the frontal lobes being developed last and being the area most vulnerable to damage (Wood & Worthington, 2017). It can affect neurorehabilitation, making it more difficult for individuals to take on board, remember and implement strategies or to carry out self-management and restorative exercises.

Insight

Reduced insight is also common after an ABI. Lack of awareness of their own impairments can affect individuals' engagement with neurorehabilitation, particularly with aspects such as staying in specialist neurorehabilitation units, participating in sessions and setting goals (Ownsworth & Clare, 2006). This can also put a significant burden on the caregiver (Jourdan et al, 2018). As an individual's insight increases, input can become more effective (Gracey et al, 2009).

Defensive denial can look like lack of insight and can be a coping strategy (Prigatano & Sherer, 2020). Individuals with an ABI may often deny they need neurorehabilitation or support around their communication and/or EDS. This denial can lead to frustration, poor self-judgement and conflict.

SLTs help individuals recognise and understand their communication and/or EDS changes and their potential impact on daily function. This insight is essential for active participation in neurorehabilitation. As insight is raised however, individuals become more aware of the full impact of their injury, which can lead to a fall in their mood and levels of participation.

Motivation

Motivation is a key factor in recovery and neurorehabilitation of individuals with an ABI (Maclean et al, 2000; Kusec et al, 2019). However, many individuals experience reduced motivation following their ABI due to:

- apathy (lack of initiation or interest)
- low self-awareness (not recognising their challenges)
- emotional factors (depression, anxiety, frustration)
- executive dysfunction (poor planning, problem-solving, impulsivity).

Strategies that may help increase motivation include:

- goal setting with personal meaning
- motivational interviewing (MI)
- positive reinforcement
- making therapy fun and engaging
- peer support and group therapy
- self-monitoring and progress tracking

- building therapeutic rapport
- metacognitive and self-regulation strategies
- environmental and routine modifications
- family and carer involvement.

Effective motivation strategies should be personalised, structured and positive.

Fatigue

Communication ability is highly sensitive to fatigue levels. Neuro or cognitive fatigue is highly prevalent post-ABI and can persist chronically, impacting the neurorehabilitation process (Mollayeva et al, 2014; Togher et al, 2023).

Social network and support

Social network and social support considerations are integral to speech and language therapy assessment and intervention post-ABI, as they can significantly influence communication outcomes and QoL (Brunner et al, 2025).

Co-occurring conditions

Individuals with an ABI will likely have other health conditions as well. The most common of these are functional neurological disorders (FND). People with FND commonly present initially to neurology services with brain injury-like symptoms. However, the two conditions can also commonly co-occur. It is important for SLTs to differentially diagnose and identify aetiology of communication and/or EDS difficulties to support recovery and neurorehabilitation.

Other health conditions often seen in individuals with ABI include:

- mental health disorders
- alcohol, drug and substance misuse
- learning disabilities
- neurodivergence
- spinal cord injury.

Many of the symptoms across the conditions overlap and they may often mask the true extent of the ABI and its effects. Consequently, it is important that SLTs:

- ask about other conditions
- ask about mental health conditions
- consider implications of medications that may need to be adjusted
- listen to the individual's narrative.

Utilisation of the neurorehabilitation principles will also need to be adapted for each individual.

Medications

Some medications may impact or prolong cognitive recovery. Medications and polypharmacy should be considered as a team.

Setting expectations

It is important for SLTs to talk to and involve family members and carers, as well as the individual, to manage expectations around rate and extent of recovery following an ABI (NCASRI Project Team, 2016). Cognitive and communication impairments can often result in slower recovery than physical changes.

Positive communication styles

It is important to adopt a positive communication style when interacting with individuals who have experienced an ABI (Ylvisaker et al, 2008a). Implementing positive communication strategies can significantly enhance interactions, promote engagement and aid neurorehabilitation (Ylvisaker & Feeney, 1998).

Positive risk-taking

Positive risk-taking can be used to help individuals with an ABI regain independence, rebuild confidence and resilience and develop problem-solving and self-monitoring skills. By using structured challenges, safety planning and gradual exposure, SLTs can help individuals balance risk and reward effectively. Fear of failure is reduced by promoting small manageable challenges, giving individuals control over their own decision and actions, supporting them to engage in new tasks and reducing learned helplessness (Neuro Rehab Times, 2023).

Screening and referral to speech and language therapy

Communication and EDS needs should be assessed and screened at appropriate times as part of a multidisciplinary practice (NICE, 2025). SLTs play a role right from the start of the injury.

Individuals who are on the neurorehabilitation pathway will likely be seen by an MDT, including an SLT. However, given the different types of ABI and its hidden disability, individuals may not have been highlighted to speech and language therapy or been seen by an ABI specialist team.

There are different screening tools that can be used by professionals to identify an ABI or communication need. The Brain Injury Screening Index (BISI) (Brainkind, n.d., a) or Brain Injury Needs Indicator (BINI) (Brainkind, n.d., b) are often used to identify an ABI. The Cognitive-Communication Checklist for Acquired Brain Injury (CCCABI) referral tool (MacDonald, 2024) may be used to identify communication needs.

If the individual has reduced self-awareness and/or reduced self-advocacy, they will be unlikely to seek speech and language therapy themselves. Therefore, it important that MDT professionals understand the communication and EDS sequelae following an ABI and the role of the SLT in addressing them.

SLTs should play an active part in raising this awareness across the MDTs, including through training and communication partner training (CPT), to ensure communication and EDS impairments are recognised and appropriately supported. See **RCSLT's downloadable document: 'The role of speech and language therapists (SLTs) within a multidisciplinary team for acquired brain injury' for additional information**.

Goal setting

Goal setting is a key element in ABI and neurorehabilitation. It provides direction, motivation and measurable success through a structured approach to neurorehabilitation and recovery.

SLTs should create structured, realistic and individualised goals and plans and meaningful outcomes. SLTs should identify areas of focus that may require assessment in order to achieve the individual's goals.

Rehabilitation goals for individuals with an ABI should be tailored according to the trajectory and stage of their condition (Turner-Stokes et al, 2009; 2010). Goals may be short-term with an overarching long-term goal. They should be collaborative, with the individual and health professionals working together with communication partners, family and carers. They should be meaningful to the individual to ensure buy-in and they should be made salient so that individuals can remember and keep referring back to them.

Goal setting enables individuals to take control and can promote independence in managing their own difficulties. This requires adequate communication skills or support (e.g. by using Talking Mats) (Murphy et al, 2013).

Developing interdisciplinary team (IDT) goals also allows for an IDT approach (Doig et al, 2023).

Common tools used to support goal setting in neurorehabilitation include:

- Goal Attainment Scaling (GAS) (Turner-Stokes, 2009) (often used as part of UKROC outcome measures) and GAS light model (Turner-Stokes, n.d.)
- SMART goal setting (Wade et al, 2009)
- **BRIDGES self-management** (Chaplin et al, 2012)
- values-based goals (Rose & Rendell, 2022)
- **Talking Mats** (Murphy et al, 2013)
- Formulation (MacDonald, 2017)
- Canadian Occupational Performance Measure (COPM).

Intervention and approaches

The overarching aim of intervention is to maximise functional communication, including supporting communication partners to understand and adapt to the individual's needs. Intervention focuses on communication in meaningful, real-life contexts relevant to the individual (MacDonald & Wiseman-Hakes, 2010) and can ultimately facilitate successful community reintegration (Powell, 2004).

SLTs may deliver intervention, working with the individual, as well as with family, staff and wider communication partners. Intervention approaches may be restorative and/or compensatory, impairment-focused and/or functional, delivered 1:1 and/or in groups.

A multi-modal approach is likely required. SLT intervention for ABI encompasses a broad range of techniques aimed at improving daily functioning, social integration and overall quality of life.

There are a number of SLT intervention approaches including those listed below.

Psychoeducation

Psychoeducation is a therapeutic approach aiming to provide structured information to individuals and families on a condition and its treatment and prognosis incorporating psychosocial effects (Troeung et al, 2024). SLTs play a key role in psychoeducation, helping individuals and their families understand the effect of their brain injury on communication and EDS. It enables them to recognise the wider aspects of their injury and hidden disability and the wider aspect of the role of SLTs. Having this knowledge can help individuals with psychosocial adjustment and empower individuals to self-advocate and to even positively adapt (Nygren-de Boussard et al, 2014; Caplain et al, 2019; Venkatesan et al, 2022; Gonzalez-Fraile et al, 2025).

It is important to highlight that this will be a reiterative process throughout the recovery (Grayson et al, 2020; 2021).

Providing psychoeducation in a group format can give individuals peer support and an opportunity to share experiences and different strategies that have or have not worked for them. This peer feedback can be particularly useful for those with reduced insight.

A metacognitive approach can be beneficial in helping individuals to reflect on and understand where their communication breaks down and what strategies might help.

It is also important to consider different cultures and beliefs around medical intervention (e.g. religious beliefs).

Addressing communication breakdowns

SLTs can equip individuals with strategies to repair communication breakdowns, reduce barriers to social interaction and support meaningful engagement in neurorehabilitation. This begins with helping individuals recognise when breakdowns occur, understand how these affect their social interactions and then develop targeted strategies to overcome the barriers that most limit their participation.

Communication-specific coping intervention (CommCope-I) is an evidence-based intervention program that targets coping in the context of communication breakdown (Douglas et al, 2019).

Communication partner training (CPT)

CPT focuses on teaching strategies to enhance communication, reduce communication barriers and improve the overall communication experience for both the person with an ABI and their communication partner.

Communication partners are taught specific strategies, techniques and environmental modifications to support communication. CPT also includes training on how to respond to communication breakdowns, how to offer appropriate support and how to create a more positive and supportive communication environment. CPT includes strategies such as slowing down speech, simplifying language and minimising distractions as well as asking questions which seek to extend topics and invite the person with an ABI to discuss their feelings and opinions and have enjoyable conversations (Togher et al, 2013).

CPT can lead to improved communication skills, increased participation in conversations and enhanced overall communication satisfaction for both the person with ABI and their communication partner (Togher et al, 1997; 2004; 2010a; 2013; 2015; Behn et al, 2012; 2020; 2021). CPT can be conducted face to face or online and one to one or as a group.

Manualised and evidenced based approaches include:

- **TBI Express** (Togher et al, 2010a) – manualised CPT treatment in ABI
- **TBI ConneCT** (Rietdijk et al, 2021) – shortened and online version of TBI Express
- **Interact-ABI-lity** (University of Sydney ABI communication lab, 2023) – offers practical strategies and training to enhance communication effectiveness and relationships, responding to the needs of this population for flexible, readily available support
- **Better Conversations** (Best et al, 2011).

Project-based interventions

Using project-based interventions creates a concrete goal (a project) for therapeutic activities that are contextualised and meaningful to work towards (Ylvisaker et al, 2007; Feeney & Capo, 2010; Behn et al, 2019; 2024). Topics can be easily adapted to the individual and can be offered one to one or in a group setting.

This approach can target high-level communication difficulties as well as executive dysfunction and CCD. It can also be used for low-level communication challenges (Behn et al, 2024).

Group-based interventions

Group-based interventions are a powerful tool in ABI rehabilitation, offering social connection, cognitive training, emotional support and practical skill development. By fostering peer engagement and feedback, shared experiences, structured learning and goal-oriented practice, group-based therapy enhances rehabilitation outcomes and promotes long-term recovery and independence (Behn et al, 2019; Keegan et al, 2020).

Virtual and online social groups have also been shown to be effective (Brassel et al, 2021a; 2021b; Brunner et al, 2023; Keegan et al, 2024).

Discourse and social communication

Discourse and social communication interventions are promising (Lê et al, 2022). Specific training interventions include:

- **Interact-ABI-ility**
- **Social-ABI-ility** (Brunner et al, 2023)
- **Cyberability**

Web-based communication, including the use of social media platforms, is increasingly important to consider, as this is now central to how many individuals interact, maintain relationships and access information in everyday life. Following an ABI, difficulties with communication can significantly affect an individual's ability to engage safely and effectively in online environments, making this an important area for assessment and intervention (Brunner et al, 2017; 2019; 2025). Supporting digital communication skills can therefore play a key role in social participation, identity and wellbeing.

There are promising developments in virtual and online neurorehabilitation. These approaches can increase accessibility, reduce geographical barriers and offer flexible, person-centred therapy options. Emerging evidence suggests that virtual rehabilitation can be effective for assessment, intervention and ongoing support, either as a standalone approach or alongside face-to-face services (Marshall et al, 2016; Brassel et al, 2021a; 2021b; Keegan et al, 2024). As technology continues to advance, online rehabilitation has the potential to enhance continuity of care and extend neurorehabilitation.

Metacognitive strategy training

Metacognitive strategy training is a highly effective approach for individuals with an ABI, particularly those who experience cognitive changes, enabling them to develop self-awareness, problem-solving skills and cognitive compensation strategies (Togher et al, 2023). By fostering independence, adaptability and self-regulation, metacognitive strategy training can significantly improve rehabilitation outcomes and quality of life.

Commonly used metacognitive strategies include:

- the Goal-Plan-Do-Review (GPDR) method (Ylvisaker et al, 1998; Sohlberg & Turkstra, 2011)
- verbal self-instruction
- time management and organisation techniques
- errorless learning approach
- self-monitoring checklists
- mindfulness and attention strategies
- self-coaching (Ylvisaker, 2006).

A manualised approach that is also helpful for metacognitive training is IMPACT (Intervention for Metacognition and Social Participation: an Acquired Cognitive communication Treatment Manual) (Copley et al, 2021; 2022).

Insight raising

Many individuals struggle with self-awareness of their communication difficulties, due to its saliency as well as insight impairment following an ABI. This can lead to misunderstandings, frustration and strained relationships. Gradual insight development is key to preventing defensive reactions and increasing participation (Fleming & Ownsworth, 2006).

Insight raising is a crucial but delicate process in neurorehabilitation. By using self-monitoring techniques, feedback mechanisms and experiential learning, SLTs can help individuals develop self-awareness, accept challenges and implement effective compensatory strategies. This fosters greater independence, engagement and emotional wellbeing post-injury.

It is important to identify the level of insight (intellectual, emergent, anticipatory) (Toglia & Kirk, 2000) as part of an MDT with the aim to move individuals towards anticipatory awareness specific to their communication.

It is also important to differentiate between insight and defensive denial (Prigatano & Sherer, 2020).

Strategies for raising an individual's insight into their communication challenges include:

- video (or audio) feedback (Wadams et al, 2022)
- feedback and self-reflection (Finch et al, 2017; Copley et al, 2021; 2022)
- experiential learning (error awareness training)
- role reversal exercises (Finch et al, 2017)
- self-monitoring and journaling
- motivational interviewing (MI) (Medley & Powell, 2010)
- cognitive rehabilitation strategies (eg Goal-Plan-Do-Review (GPDR) method) (Ylvisaker et al, 1998b; Sohlberg & Turkstra, 2011)
- family and carer feedback (eg IMPACT) (Copley et al, 2021; 2022)
- peer feedback in group interventions.

Metaphoric identity mapping

Metaphoric identity mapping (Ylvisaker et al, 2008b) offers a novel framework for identity reconstruction and goal setting in rehabilitation contexts. It can enhance engagement by identifying metaphors that resonate with the individual's sense of self, fostering greater engagement and commitment.

Individuals also require support from an MDT to address emotional, cognitive and psychiatric symptoms that may result from loss of identity.

Self-regulatory scripts

Self regulatory scripts are structured, individualised plans that cue an individual to use behaviours and strategies in specific contexts. They typically take the form of brief, concrete, step by step statements or visual supports that the individual rehearses and then uses in real situations (for example, "Stop – Breathe – Think – Choose" before reacting) (Feeney, 2010). Acting as cognitive presets, they help anticipate challenging behaviours and contexts, organise actions in advance and replace impulsive or maladaptive responses with goal directed behaviour. They empower individuals with an ABI to take control of their behaviours, emotions and cognitive processes. By reinforcing structured self-talk and problem-solving techniques, these scripts support long-term independence and rehabilitation success.

Positive behaviour support (PBS)

PBS (Ponsford et al, 2022) can be used to improve QoL by reducing challenging behaviours, increasing independence and participation and enhancing relationships. SLTs can play a crucial role in assessing and addressing communication difficulties that may contribute to challenging behaviours.

Individuals may exhibit various behavioural challenges following their ABI including:

- impulsivity and disinhibition – saying or doing inappropriate things
- aggression or irritability – verbal outbursts or physical aggression
- social communication difficulties – difficulty interpreting social cues or maintaining conversations
- self-injurious behaviour – harm to oneself due to distress or frustration
- non-compliance or resistance – difficulty following routines and refusal to accept help
- emotional dysregulation – mood swings, anxiety or depression.

Advocacy, self-advocacy and support

Individuals with an ABI can struggle with self-advocacy and may have difficulty expressing their needs, making decisions and navigating services to support their recovery. This can result in unmet medical, social and personal needs, leading to frustration, dependence on carers and family members and reduced QoL. This is further compounded if their communication abilities are affected. By building awareness, developing communication strategies and gradually increasing independence, SLTs can empower individuals to advocate for themselves in medical, social, familial, occupational and educational settings. It is also important to the neurorehabilitation process for individuals to know and articulate their needs and wishes and to make informed decisions about addressing them. This supports their autonomy, independence and understanding of their rights, builds confidence, improves long-term outcomes and reduces the risk of exclusion due to communication and/or EDS difficulties (Knox et al, 2017; Carey et al, 2023).

SLTs play an important role in advocating for individuals after an ABI by identifying communication and EDS needs, sharing this information with relevant teams and educating families and professionals to reduce barriers and promote effective support. They ensure individuals have the tools and opportunities to express their needs, participate in decision-making and engage in community life, while increasing understanding and inclusivity within social and healthcare environments.

It is important that SLTs raise awareness about the hidden and overt communication and EDS difficulties associated with an ABI, as well as the role of speech and language therapy in this area.

Collaboration and multiagency work

SLTs are an integral part of an MDT supporting a person with an ABI to achieve their goals.

SLTs may collaborate with a broad range of professionals in addition to the immediate neurorehabilitation MDT team. These may include maxillofacial teams, ENT specialists, independent healthcare providers (e.g. Cygnet), charitable organisations (e.g. Headway), independent SLTs, medicolegal teams, social care services and social workers, nursing and care homes and educational settings. Building strong therapeutic relationships and working collaboratively with the wider MDT are essential.

SLTs can be key in ensuring successful access to rehabilitation by making information, resources etc from other members of the team accessible to the client and promoting the best ways to communicate.

Working with family, friends and carers

SLTs play a pivotal role not only in neurorehabilitation of the individual but also in supporting and educating their families and caregivers (Grayson, 2021), who may struggle with changes in family dynamics and the burden of caregiving. Effective communication strategies and understanding the nuances of cognitive communication difficulties are essential components of our input and support.

Key aspects of the role of SLTs when working with family and carers include:

- education and information about the injury and its effects, rehab process and recovery (Grayson et al, 2020)
- signposting to support services (Grayson et al, 2020)
- communication partner training (Grayson et al, 2020; 2021)
- emotional and psychological/social support (Grayson et al, 2020; 2021)
- respite care and assistance.

Involving families (including children), carers and friends throughout the neurorehabilitation process is crucial for effective recovery after an ABI. SLTs play a vital role in providing the necessary support, education and training to ensure families are well-equipped to handle any challenges associated with communication difficulties after an ABI, particularly CCD.

Working with third sector organisations

Collaboration with third sector organisations is vital to support extending rehabilitation beyond clinical settings and allowing continuity of care. They can provide signposting, education and resources as well as holistic neurobehavioural therapy (Coetzer & da Silva Ramos, 2022). See SLT member resources list for more details.

Medico-legal involvement

TBIs in particular (e.g. from medical negligence, road traffic accidents or workplace injuries), can lead to criminal or civil legal proceedings, which may involve input from medico-legal services. SLTs may be involved as the treating therapist or instructed as an expert witness (this will involve additional training in e.g. report writing, giving evidence in court, etc).

Educating legal professionals including case managers, solicitors, judges, court personnel, police and probation officers on the hidden and less understood impacts of an ABI on communication and EDS is an essential part of SLTs' role, alongside helping them understand the extent of the individual's impairments and the longer-term outlook of their needs.

Training and education

SLTs provide education and training to the individual, their family/caregivers, their wider social network and the MDT on communication and/or EDS changes, for example, therapeutic interventions (such as CPT or communication strategies) and the role of the SLT when working with individuals with an ABI.

Many professionals receive limited training in communication disorders. Programs such as 'Heads Together' aim to improve awareness and interdisciplinary collaboration (Howell et al, 2023).

Christensen et al (2023) suggests there is a clear need to provide specific communication training and strategies for rehabilitation staff and managers to help them facilitate interactions and reduce negative impacts in clinical settings. NICE (2025) recommends offering education and training to families, peers and professionals on effective communication strategies and supporting conversation and participation to help improve long term communication outcomes and reduce social isolation.

Counselling and emotional support

SLTs often provide emotional support alongside clinical interventions. SLTs play an important role in supporting the emotional and psychosocial recovery of individuals with an ABI. SLTs can help individuals and families understand the impact of an ABI, manage the emotional reactions associated with communication and EDS changes and develop meaningful goals for neurorehabilitation. Using counselling skills and psychological approaches, SLTs provide space for individuals to express feelings, build resilience and maintain motivation, while also involving families and addressing social and environmental factors. They promote coping strategies, facilitate social connection and refer to mental health services when needed. Through this integrated emotional support, SLTs enhance engagement in neurorehabilitation, rebuild confidence and identity and contribute to holistic recovery and improved quality of life.

Working with complex conditions

SLTs are skilled in managing communication and EDS difficulties that arise in individuals with complex conditions (e.g. disorders of consciousness (DOC)), co-occurring conditions such as dual communication diagnoses (e.g. aphasia and CCD) or dual clinical diagnoses (e.g. ABI and a mental health disorder).

Mental capacity and shared decision-making

ABI-related sequelae can affect an individual’s mental capacity and ability to make decisions due to the “frontal lobe paradox” (George & Gilbert, 2018). As a result, a more nuanced and broader real-world MDT assessment is required.

SLTs should support mental capacity assessments, in line with the Mental Capacity Act (MCA) (2005). SLTs may be involved directly in supporting communication during mental capacity assessments or indirectly by educating assessors on effective communication strategies to use with the individual. While SLTs cannot ensure that an individual makes an informed choice, SLTs can maximise the individual’s ability to understand, retain and communicate information. Where a person is unable to make an informed decision, SLTs help ensure their preferences and communication are understood and considered within the best interests decision-making process, as outlined by the MCA (2005).

See **RCSLT's guidance on supported decision making and mental capacity** for further information.

Alternative and augmentative communication (AAC)

Some individuals with an ABI may require the use of AAC. AAC should be routinely considered for individuals with severe communication impairments. The broader definition of AAC now includes mainstream assistive devices (e.g. phones, laptops, smartwatches) or tech-mediated communication (Miao et al, 2022). This is pertinent for individuals after an ABI, as using something that is already familiar to an individual is much less cognitively demanding.

Selecting and implementing an AAC system must be a person-centred process that aligns with the individual's goals, preferences and participation needs. Involving the individual with an ABI throughout the assessment, recommendation and implementation stages helps to reduce the risk of AAC abandonment and increase long-term acceptance.

SLTs should take into account factors such as changes in communication partners, environments, levels of ability and pre-injury communication skills. It may be helpful to consider AAC within the framework of the World Health Organization's 5P people-centred assistive technology model (WHO, 2022), which emphasises looking beyond the assistive product alone to consider the broader context of the person, provider, product, personnel and policy.

When planning AAC intervention, a range of physical, sensory and psychosocial factors must be considered. Co-existing physical sequelae such as vestibular dysfunction, visual disturbances, hearing deficits, sleep–wake disorders or pain, can significantly impact an individual's ability to engage in conversation. These challenges should be addressed collaboratively as an MDT.

AAC needs are dynamic and may change over time, particularly during the recovery phase following an ABI. Therefore, assessment and ongoing review are essential to ensure that the AAC system continues to meet the individual's evolving needs, abilities and goals (Togher et al, 2023).

Communication partners should receive ongoing training to support effective interaction using AAC. Training should be updated regularly as both the individual's needs and available technology evolve (Togher et al, 2023).

For more general information see the **RCSLT guidance on AAC**.

Support at transitional points

Following an ABI, changes in the individual's environment and circumstances may take place at various times during their lifespan, resulting in a change in communication needs. SLT input is an important part of the process, supporting individuals and their MDTs, addressing the communication and EDS needs of the new context. Key transition stages that SLTs may be involved in include:

- acute ward to neurorehabilitation placement
- inpatient to discharge home
- return to or change in employment.

SLTs can assist individuals in re-integrating into vocational or educational settings by addressing communication and/or EDS challenges specific to that context (Meulenbroek et al, 2022).

Employment

Difficulties with communication and/or EDS after an ABI can make returning to work challenging. Employment is closely tied to personal identity in Western culture. Failure to return to employment may lead to loss of identity, social isolation, reduced mental wellbeing and lower quality of life. Often financial pressures and strain through lost income can push individuals to return sooner than they are ready or is clinically appropriate.

Psychosocial sequelae of an ABI may lead to misunderstanding. For example, irritability and short answers due to fatigue may be misread as rudeness, or reduced initiation of tasks could be interpreted as laziness. Reduced insight, and therefore reduced ability to accurately self-monitor and adjust performance, is a poor indicator for return-to-work success, even when daily functioning is intact.

Effective communication skills may play a significant role in successful employment (Rietdijk et al, 2013). Communication changes should be assessed in individuals returning to employment after an ABI (Meulenbroek & Turkstra, 2016). Functional Assessment of Verbal Reasoning and Executive Strategies (FAVRES) (MacDonald, 1998) and FAVRES-S (MacDonald, 2015) are good assessment examples. Specialist vocational rehabilitation may be needed to optimise work participation through supporting:

- pre-work skills
- returning to work
- maintaining employment
- changing vocation
- exploring volunteering.

An ABI may come under the Equality Act (2010), where employers must make reasonable adjustments for disabilities, including communication and cognitive impairments, not just physical ones. These adjustments may include shorter hours/days, change in start times, personal office space or regular breaks.

For further information see the **BSPRM guidelines on vocational rehabilitation** including outcomes measures specific to vocational rehabilitation.

Moving from paediatric to adult services

Young people typically move from paediatric to adult wards in hospitals at 16 years old and the move to adult community services usually takes place at 18 years old. This transition should be planned for and take place in good time. Adult services should meet the individual before they transition their services. Having a named worker to coordinate care and support before, during and after transfer is beneficial.

Return to school/education

Following an ABI, an education and health care plan (EHCP) or a statement of needs may be required. These set out the legally required support that should be put in place for children and young people (CYP) to support their learning and academic attainment. An SLT's assessment and statement of needs will likely play an important part in supporting the EHCP application for CYP with communication and/or EDS difficulties.

Educational staff will also likely require education and training on how to support and identify changes in the CYP's communication and/or EDS abilities, even when a plan is in place, as the individual grows and continues to progress throughout education.

Moving between education levels

There are a number of transitions that occur throughout education that may require SLT support.

Primary education to secondary education: SLTs may support with

- managing larger, more complex social environments
- preparing for increased academic demands
- developing independence and self-advocacy
- collaborating between schools' staff to ensure consistent support plans and communication and EDS strategies are transferred.

Secondary education to college: SLTs may support with navigating less structured environments and transition planning.

College to university: SLTs may support with:

- becoming an independent learner
- developing complex communication for learning
- liaising with adult services
- handing over to learning and disability support teams in university.

Leaving education/gaining employment: SLTs may support with:

- workplace readiness e.g. interviews and professional communication
- working with employers to put reasonable adjustments in place
- considering alternative pathways e.g. volunteering.

Identification, assessment and neurorehabilitation of eating, drinking and swallowing (EDS) difficulties after acquired brain injury (ABI)

Eating, drinking and swallowing are highly complex processes essential for nutrition and safety and represent important social interaction and communication opportunities across all ages. Following an ABI, individuals may experience significant changes in their ability to eat, drink and swallow safely. Cognitive impairments associated with an ABI can further impact these difficulties and you may see more oral stage issues due to impulsivity, overloading, sensory impairments etc. Individuals can also be more amenable to EDS rehabilitation and can make excellent improvements.

SLTs play a crucial role in assessing, differentially diagnosing and providing ongoing rehabilitation for EDS difficulties following an ABI. This extends beyond initial recommendations and includes active therapy, strategy implementation and adaptation as the individual's needs change, facilitation of discussions, support with decision-making, and training for caregivers and professionals.

EDS neurorehabilitation after an ABI requires prompt assessment and a tailored management plan that considers cognitive, physiological and functional factors. Approaches may differ significantly from conventional EDS management, particularly in paediatric settings. Instrumental assessments may be needed and close collaboration with dietitians is essential for effective management.

Swallow rehabilitation following an ABI uses similar principles and multimodal approaches as communication rehabilitation. These may include:

- EDS education
- dysphagia rehabilitation to promote recovery (Howle et al, 2014)
- electrical stimulation therapy (Ding & Ma, 2016)
- oral care and saliva management
- environmental adaptations
- dietary modifications

- postural adjustments
- adaptive equipment
- tracheostomy and decannulation (Eskildsen et al, 2024)
- discussions around eating and drinking decisions and alternative feeding
- supported decision making and mental capacity assessment specifically around EDS after an ABI.

It should be noted that needs are likely to change as the individual recovers and therefore their EDS should be reviewed regularly.

For general EDS information, see the **RCSLT EDS guidance**.

Where eating and drinking with acknowledged risk (EDAR) is being considered, please refer to the **RCSLT EDAR guidance** for more information.

Discharge and onward referral

Successful SLT assessment and intervention needs to be at a time when the individual is ready (Gracey et al, 2009). Not receiving SLT input does not necessarily mean the individual does not have SLT needs or that it should not be explored further down the recovery line when the individual may be more accepting and aware of their needs.

As communication is context dependent, communication changes may not be obvious in acute or even inpatient settings. Therefore, it is important to highlight in any documentation that although no communication needs/difficulties were identified or highlighted in the current setting, that does not mean there will not be difficulties in the future. Further assessment may be needed in the future as the individual recovers and/or moves to new environments and settings.

If there are ongoing needs, access to therapy should be provided and appropriate referrals should be made (NICE, 2023). This includes referrals to third sector organisations, social prescription and specialist rehabilitation, e.g. vocational rehabilitation.

Outcome measures

There is no one standardised tool for measuring outcomes after an ABI or the outcome of speech and language therapy input for these individuals.

A useful resource is the UK Rehabilitation Outcomes Collaborative (UKROC) database, which systematically collates data on needs, inputs and outcomes for all patients admitted to level 1 and 2 rehabilitation services (including some paediatric services). The data collected includes:

- needs and inputs: the rehabilitation complexity scale (RCS-E) and the Northwick Park nursing and therapy dependency tools (NPDS and NPTA)
- outcomes: the UK functional assessment measure (UK FIM/FAM) and the Northwick Park nursing dependency scale (NPDS).

In addition, there is a 'basket of outcome measures' UKROC (Turner-Stokes et al, 2012) which are commonly used within neurorehabilitation. These include:

- UK rehabilitation outcomes collaborative UKROC (Turner-Stokes et al, 2012)
- goal attainment scaling (GAS) (Turner-Stokes, 2009) and GAS light model (Turner-Stokes, n.d.)
- functional independence measure/functional assessment measure (FIM/FAM)
- therapy outcomes measures (TOMs), including condition specific TOMs (Enderby & John, 2015)
- observer-reported
- clinician-reported
- patient-reported
- EQ-5D (EuroQol Research Foundation, 2019)
- quality of life after brain injury (QOLIBRI) (von Steinbüchel, 2010)
- adapted Kagan scales (Togher et al, 2010b)
- Sydney Psychosocial Reintegration Scale–2 (Tate et al, 2011; 2012).

Given the heterogeneity of communication and/or EDS difficulties, functional outcomes are also often used and can be more powerful. Examples include:

- reintegration into society
- return to employment/education
- increased quality of life
- regaining independence and autonomy
- patient stories
- self-efficacy scales.

For more information see the **RCSLT guidance on measuring outcomes**.

Awake craniotomy

SLTs play a role in intraoperative brain mapping and ensuring communication function is preserved. See **RCSLT's guidance on awake craniotomy** for further information.

Prolonged disorders of consciousness

Prolonged disorder of consciousness (PDOC) can occur following severe brain injury and is a relatively rare but complex condition. The PDOC diagnosis falls within a continuum on which the subtypes are diagnosed by two specialist MDT members.

There are currently three types of PDOC along the continuum:

- coma
- vegetative state
- minimally conscious state.

SLTs working in ABI are increasingly likely to come across this clinical population, as medical advances mean there is a higher incidence of individuals surviving severe brain injuries and disorders of consciousness (DOCs) following profound brain injury, leading to significant and complex cognitive, communication and physical impairments.

SLTs have a significant role in the assessment, observations, monitoring and management of communication skills in individuals with DOCs.

The SLT's role in relation to swallowing here will be predominantly related to assessment and management/optimisation of saliva, oral hygiene and exploring response to taste as part of awareness assessments. EDS with individuals in PDOC needs to be approached with caution due to complex ethical and legal factors. This is an increasingly complex area and SLTs should seek specialist support.

For more information, see **RCSLT's information for SLTs working in prolonged disorders of consciousness (PDOC)**, **Putney PDoC toolkit**, **Guidelines for speech and language therapists working with adults in a disorder of consciousness**, **RCP (2020) Prolonged disorders of consciousness guidelines**.

Acute ABI

SLTs have a role within the MDT and are well placed to assess, monitor and manage people during the acute ABI stage. This is likely to be through informal screening and assessment, by identifying communication and swallowing needs, by communicating basic needs and by educating the family. They may also determine the individual's rehabilitation needs and make timely onward referrals.

Post-traumatic amnesia (PTA) can frequently occur during the acute stage following TBI, often after a period of unconsciousness (Parker et al, 2022). The length of time someone remains unconscious or in PTA state can vary. The longer these stages last, the more severe the brain injury is likely to be. SLTs will play a role as part of the MDT approach to monitor recovery during this time.

Confabulation may also occur during this time. It is important to involve others who can corroborate information and work as part of the MDT to support the individual through this (Fish & Forrester, 2018; Francis et al, 2022).

Access to written information and communication partner training should be available to families at various points following an ABI, not just in the early stages (Grayson et al, 2020).

Inpatient/specialist neurorehabilitation

Inpatient or specialist neurorehabilitation allows detailed assessment, formulation and differential diagnosis in collaboration with an MDT. It also allows provision of intensive specialist neurorehabilitation within a therapeutic milieu (Janssen et al, 2014). It enables psychoeducation and neurorehabilitation to be continued in further depth and creates the time and space needed to plan for ongoing input into the community, referral to long term specialist neurobehavioural services and discharge.

Community neurorehabilitation

Many individuals can achieve greater neurorehabilitation gains in their own home environment, where there is less need to generalise skills across different settings. Therefore, it is important to recognise that discharge home does not necessarily indicate that neurorehabilitation is complete or no longer required.

There are several reasons why SLTs may be involved in community neurorehabilitation input:

- ABI neurorehabilitation may be provided to support discharge and transition home and is likely to continue into the community.
- It may be provided to continue improvements being made as an inpatient.
- It may also be provided later down the line when context or role changes. Consequently, reassessment and intervention may be required.

Community-based intervention should be provided to encourage social integration, self-advocacy and independence at any point post-injury. Community input also manages risk to the individual's self and the public and helps avoid further re-admissions and breakdowns in care packages, etc.

Vocational rehabilitation

Vocational rehabilitation may be required to facilitate return to work with necessary accommodations.

Specialist vocational rehabilitation services are limited across the UK. There is a significant lack of speech and language therapy input within these (Burfein et al, 2024). However, many SLTs work on workplace communications within neurorehabilitation outside these services. The role of an SLT involves assessing how communication affects job performance and exploring whether return to work is possible with adjustments. This includes gathering detailed information, determining feasibility and considering alternatives such as volunteering or career changes.

Intervention will mirror neurorehabilitation but be tailored to work settings. It may involve workplace visits, employer discussions and training for colleagues such as in using compensatory strategies. Pre-vocational skills or tasks may be required first. SLTs may provide direct intervention (e.g. email script training) or consultative support.

Ongoing and frequent reviews and flexible support are essential to adjust strategies and guidelines as the individual progresses or if initial plans prove ineffective. Vocational goals are a critical part of rehabilitation (Moore et al, 2024; Hayward et al, 2019; Roessler et al, 2015; Sweetland et al, 2012).

Long-term monitoring

ABI is a life-long condition, not only for the individual but also for their friends and family. Long-term negative effects of an ABI are significant if not addressed at the appropriate time and long-term monitoring is needed.

Changes to physical, cognitive, emotional and behavioural states can impact the individual's ability to function successfully and changes in life, context and roles mean that SLT input should not only be provided at the time of the injury but may also be needed to a greater or lesser extent throughout the individual's life. Communication needs change as life changes and therefore it is important to have lifelong access to community intervention. Individuals should understand this and be given information about how to access SLT services in the future, as and when input may be needed.

Whilst many strides have been made to increase the provision of communication support in acute and inpatient rehabilitation services, there are still challenges in the level of support provided in community settings or long-term services. Consideration for coordinated long-term care can help prevent or reduce many costly consequences of ABI including reduced life expectancy, poor physical and mental health, limited functions and low HR-QoL.

As a long-term condition, ABI should follow the long-term conditions framework (Department of Health, 2005).

Considerations for children and young people (CYP)

ABI is a leading cause of disability for children and young people (CYP) and outnumbers any other neurodevelopmental disorder in the paediatric population (Child Brain Injury Trust, 2018). However, with 90% of ABI in CYP being classified as 'mild' and often not requiring hospital admission or being given a formal diagnosis, ABI sequelae are even more hidden; they may not be easily identifiable and require long-term monitoring.

An added challenge in this age group, especially in younger children, is that they may not be able to articulate their symptoms. This can lead to delays in recognising the problem until it presents behaviourally or clinically.

Widespread impairment and dysfunction in cognitive, motor, behavioural and social functioning commonly impacts development and education, as well as relationships, behaviour and self-regulation of thoughts, feelings, emotions and actions. This can impact on the CYP's ability to carry out activities and participate, which are crucial for development (Kreutzer et al, 2016).

Unlike in adults, ABI in CYP occurs in the context of a brain that is still developing and therefore is dynamic. This means the effects may not only be immediate but there can also be differing impacts at different time points throughout their development.

The initial effects of an ABI are visible or noticeable at the time of injury. These are often physical or physiological effects such as limb weakness or headaches. Late effects of an ABI are not apparent until the area of the brain fully develops (Limond, 2015; Klonoff et al, 1993). If the ABI occurred when the individual was a child, these may include issues with growth or autonomy, or social behaviours not seen until adolescence or puberty (a time of critical development).

There may be persistent effects or difficulties after the injury such as fatigue, pain or memory difficulties (Catroppa & Anderson, 2007; Shakalai et al, 2014). There may also be cumulative effects which become increasingly more impeding as demands increase e.g. emotions and emotional regulation (Sans et al, 2009).

Whilst it was once thought that younger brains are more plastic, it is now known that the younger the individual is at the time of injury, the more vulnerable they are (Alighieri et al, 2021). A better prognosis is thought to be only on skills that were already present at the time of injury. For skills that develop after the injury, the prognosis is worse the younger the individual is at the time of injury (Chapman, 2019). Children and young people "grow into their effects" (Anderson et al, 2005). The older the CYP is at the time of injury, the better the functional outcomes as the injury occurs on a more mature neural system (Alighieri et al, 2021).

Assessment and intervention

Clinical recommendations (Linden et al, 2024; McKinlay et al, 2016) should be used. While presentation of communication and/or EDS in CYP can be similar to adults, it differs in relation to time of presentation, recovery, prognosis and management as well as the context and environments in which it is seen. Therefore, it is important to take these into consideration when assessing and intervening with this age range.

Assessment and intervention will focus on education attainment and friendship development and maintenance and on social interactions and development. Interventions may include play-based activities as well as ABI education.

Instead of returning to employment, the focus with CYP will be on returning to education, attainment and future potential contribution to the workforce and society.

At present, many paediatric SLTs extrapolate findings from the adult literature, adapting adult-based tools to meet the needs of CYP, as well as using developmental assessments as adult assessment materials are not appropriate. Formal assessments, such as the Paediatric Test of Brain Injury (Hotz et al, 2001) and Test of Problem Solving (TOPS) (Bowers et al, 2007; 2018), exist but some teams may not have access to such assessments due to a lack of a neurorehabilitation service or SLTs working in the community with a small and unrecognised ABI caseload.

Context

Concussions are highly prevalent in CYP through play and contact sports (Lumba-Brown et al, 2018; DeLuigi et al, 2023; Karlin, 2011), although with the introduction of preventative guidelines this has been reducing (Eliason et al, 2023).

Adolescence as a critical period of development adds further complexity after an ABI (Ciccia et al, 2009; Turkstra et al, 1996). This stage is characterised by significant physical, cognitive, social and emotional changes, alongside ongoing development in cognitive, language and communication skills as the prefrontal cortex continues to mature (Ciccia et al, 2009). As CYP progress through adolescence, neural networks involved in self-concept, values and identity formation continue to develop, playing a central role in shaping their sense of self. During this period, heightened susceptibility to peer influence and increased engagement in risk-taking behaviours are considered developmentally normative; however, these factors can also increase vulnerability, particularly following ABI. Consequently, adolescents with ABI may experience specific areas of vulnerability that require targeted intervention, including safety in online environments, gaming, social media use and the development of a healthy understanding of sex and relationships.

Multidisciplinary Team (MDT)

Parent/carer involvement is critical when working with CYP. More collaboration with family and friends is needed than when working with adults. MDTs will include educational professionals (e.g. teachers, teaching assistants, SENCos) and may include children's social services and educational psychologists.

Professionals' knowledge of ABI varies by setting. Acute and inpatient paediatric neurological wards are generally familiar with both developmental and acquired conditions and typically have access to MDT support. In contrast, specialist neurorehabilitation provision in the community is extremely limited and paediatric MDT neurorehabilitation teams are often unavailable. As paediatric SLT services are usually structured around developmental rather than acquired disorders, SLTs may have less experience with ABI. Consequently, SLTs working in paediatric settings play an important role in raising awareness and providing training for health and social care professionals, as well as families and schools, about the trajectory and impact of an ABI in children and young people.

Communication effects

CCD is complicated in CYP and needs to be considered within a developmental context. Where some aspects of cognition would not reasonably be expected to be fully developed, CCD may not be the most helpful diagnosis, although it may be appropriate once they reach adulthood.

Psychosocial difficulties are one of the most common consequences following an ABI, affecting 1-3 per 1,000 children (NHS England, 2013), with executive dysfunction, CCD and social impairments the most common impairments post paediatric ABI (Desai et al, 2017).

CCD may be more commonly identified as social communication difficulties or pragmatic disorders in CYP.

Communication difficulties present differently depending on the unique cognitive, linguistic and physical profile of the child but can include verbal fluency, concisely getting their ideas across, forgetting what they are saying and going off topic (Crook et al, 2023).

CYP may also have co-occurring and/or pre-existing developmental language difficulties or speech disorder (e.g. developmental language disorders, childhood apraxia of speech). These need to be considered alongside acquired speech, language and communication needs.

Additionally, there is some evidence (e.g. Marrero et al, 2002) to demonstrate distinct challenges in executive functioning and persistent language effects in multilingual CYP when compared to monolingual CYP.

Clinical recommendations (Linden et al, 2024) include the following:

- A MDT approach is needed (including psychology).
- Intervention needs to be individualised, context-based, holistic, functional, goal- based and structured.
- Interventions should focus on addressing activity and participation in relation to CanChild's 'F' words (Rosenbaum & Gorter, 2012).
- SLTs should raise awareness of the immediate, long-term and hidden effects of an ABI.
- Systematic long-term monitoring is needed throughout development.
- Work should be carried out across environments.
- SLTs should consider developmental-based intervention.

Eating, drinking and swallowing difficulties (EDS)

ABI in CYP can result in changes to EDS abilities. For some children, these changes may be temporary, whilst others may have long-term changes requiring alternative methods of enteral feeding. For some CYP, even after intervention and rehabilitation, swallowing problems may persist (Moll et al, 2022).

Any assessment and intervention for EDS issues in CYP should recognise the developmental context of EDS skills. Consideration of carer choice and the child-parent dyad is also essential in optimising participation and wellbeing.

As examples, EDS skills can be affected by prolonged intubation, neurological disruption to the brainstem or cranial nerves, or trauma to the head and face. Tracheostomy and decannulation in ABI will differ in the paediatric population (Salik et al, 2023). Whilst intervention should focus on optimising safety, in the paediatric context, consideration of EDS skills in participatory, social, emotional and developmental contexts is essential in supporting rehabilitation. Intervention ideally focuses on rehabilitation and development of functional skills, again acknowledging developmental age and stage, in personally meaningful contexts.

Goal setting and outcome measures

The ICF-CY (WHO, 2007) has been adapted specifically for this age group. Although the F-words framework (Rosenbaum & Gorter, 2012) is now more commonly used for goal setting and outcome measures, it is designed and underpinned by the ICF-CY to focus on a holistic view emphasising participation, strengths and family-centred care in paediatric rehabilitation.

Other frameworks used include:

- GAS-light (Turner-Stokes, n.d.)
- Canadian Occupational Performance Measure: an outcome measure for occupational therapy (COPM) (Law et al, 1990).

Outcome measures include:

- FIM/FAM (for > 8 years old) and WeeFim (6 months – 8 years old) (Msall et al, 1994)
- PEDQoL (Varni et al, 2001)
- adapted Kagan scales (Togher et al, 2010b)
- TOMS (Enderby & John, 2015) (including condition-specific TOMs)
- CEDAS (Hanks et al, 2023).

Neurorehabilitation principles

Consideration of neurorehabilitation principles, including motor learning principles and neuroplasticity, inform intervention for ABI in CYP (Torchia et al, 2024).

Caution should be exercised in the use of 'standardised' paediatric assessments for CYP with an ABI, as across the lifespan these assessments provide important insight into skills and needs, but assessments often require cautious interpretation with acknowledgment of the limitations and social and cultural contexts (Badwan et al, 2025).

Speech and language therapy across the neurorehabilitation pathway

Prolonged disorders of consciousness (PDOC)

CYP who are believed to be in PDOC should be assessed carefully by a specialist MDT including an SLT. PDOC assessments should be carried out by at least two MDT members and these assessments should be carried out regularly (at least weekly).

The SLT plays an important role with PDOC patients as they have the unique skills to determine whether language processing and/or production issues could be impacting on responses and they are best placed to rule out that a CYP is experiencing 'locked in syndrome' rather than PDOC.

PDOC is increasingly discussed and recognised as part of the clinical SLT role in paediatrics (Slomine & Molteni, 2024). The recommended assessments for children in PDOC are the Coma Recovery Scale – paediatric (CRS-p) (limited to children aged between one and five years – i.e. peak language development), Wessex Head Injury Matrix (WHIM) and the Sensory Modality Assessment and Rehabilitation Technique (SMART). Although the latter two are adult-based assessments, they may be used for children in specialist settings with experienced clinicians. It may be useful to refer to the **RCSLT PDOC guidance** and the **Putney PDOC Toolkit**, which although designed for adults may provide useful information and resources.

Acute setting

Depending on the severity of the ABI, medical treatment may be received in a local hospital, or it may be in a specialist tertiary centre where rehabilitation can also be provided at the level needed.

SLTs have a role throughout the duration of an acute admission after ABI. In critical care SLTs can provide guidance for families on how to optimise communication, often through education and strategies to support understanding of the impact of an ABI, as well as by implementing paper based or electronic AAC where appropriate.

When the CYP is ready, the SLT can also guide transition to oral intake when there is evidence of readiness to do so. Once the CYP transitions from critical care to the ward they are often ready for more regular SLT as part of a neurorehabilitation programme. This can include both work on rehabilitating EDS function and work on assessing and managing their communication abilities and needs.

During the acute phase of recovery, a CYP's needs can change daily. The SLT can work with the CYP by providing ongoing assessment of their needs whilst also giving advice and therapy targeted to their stage of recovery. This can include teaching/education with parents, carers and MDT members, direct therapy with the CYP, implementation of compensatory strategies, AAC if appropriate and strategies to optimise functioning.

SLTs working in an acute setting with a CYP who is likely to need ongoing speech and language therapy for EDS or communication needs should make early referrals to community services to enable a good transition from acute to community services.

It may not be appropriate to carry out formal assessments during the acute phase of recovery due to changing abilities week on week. Formal assessment scores can be invalidated quickly for children who are rapidly improving. It can be most helpful to use assessments informally to inform onwards referrals if needed and give advice on return to school. However, if there are circumstances where formal assessment is needed, it is important to highlight that results should be interpreted in the context of a recent ABI and needs are likely to need frequent re-evaluation.

Inpatient rehabilitation units

This is likely to be provided within tertiary children's hospitals with specialist neurorehabilitation teams as opposed to specific rehabilitation units, with only one dedicated national specialist inpatient rehabilitation unit based in The Children's Trust in Tadworth, Surrey.

Community setting

There are very limited and variable community neurorehabilitation services in the UK for CYP. With significant lack of ongoing specialist SLT input, families are often reliant on charities such as the Child Brain Injury Trust (CBIT) and The Children's Trust or independent SLT services for support and these will typically occur in educational settings, highlighting the need for re-integration and collaboration with educational services (APPG, 2018).

Where CYP have considerable needs impacting health and education, it is likely that an application would be initiated for an education, health and care plan (EHCP) in England, co-ordinated support plan (CSP) in Scotland, individual development plan in Wales or a statement in Northern Ireland and more defined access to ongoing neurorehabilitation should be offered.

Long-term outcomes

Ensuring early liaison and collaboration across the rehabilitation pathway is essential to optimising both short and long-term outcomes.

The effects of an ABI in CYP can not only be subtle but may not be immediate and may only become apparent when the injured area in the brain fully matures. These deficits form part of a 'hidden' disability of ABI which can impact long-term participation within society and academic attainment. Therefore, long-term monitoring is especially needed here. Specialist SLT input is likely to be needed to support the process and address the needs of new contexts.

Mental capacity

Anyone aged 16 and over is presumed to have capacity and the Mental Capacity Act (2005) applies. Children aged 16-18 years old can consent themselves to, or refuse, treatment.

The Gillick Competence (Griffith, 2016) and Fraser guidelines (Fleming, 2006) are often used for children under the age of 16 years old, to determine whether they can consent to their own treatment without the need for parental permission or knowledge. This is mainly used for medical treatments, but it may also include therapeutic support that they do not want their parents or guardians to know about.

It is possible for SLTs to make a decision that is likely to deprive a young person of their liberty, but this should not be done unless it is the least restrictive option.

Alternative and augmentative communication (AAC)

Some CYP who have sustained an ABI may need access to AAC. AAC can be used to supplement speech, or in some cases a child may communicate fully through AAC. AAC can range from paper based AAC such as picture charts, choice boards, signing etc to power based or electronic AAC such as apps on tablets or in some cases eye gaze.

AAC needs may change over time, especially when recovering from a brain injury. Children who need AAC following a brain injury should be reviewed regularly to ensure their AAC is meeting their needs as they recover and develop new skills.

Future directions and research

ABI is recognised as a chronic health condition and this must be reflected in national and local policies. Developing a coherent speech and language therapy research strategy and commissioning guidance is essential to support workforce development, improve service sustainability and reduce resource pressures.

Although a growing body of work is emerging from Australia, Canada and the USA, there continues to be limited UK-specific research, particularly concerning CCD and ABI, including paediatric ABI. Strengthening the national evidence base is essential to ensure services reflect the specific needs of the UK population and health system.

Key research gaps and areas for future research include:

- development of paediatric-specific assessment tools for ABI-related communication difficulties
- long-term outcomes of an ABI following speech and language therapy intervention
- resource implications and cost-effectiveness of speech and language therapy provision in ABI
- workforce development and training needs for SLTs in ABI
- health economics of speech and language therapy in ABI
- impact of SLT involvement on education, participation and QoL
- the use and outcomes of AAC in ABI
- addressing cultural and health inequalities in ABI neurorehabilitation
- health inequalities faced by individuals living with an ABI
- use of AI and digital technology in the assessment, monitoring and rehabilitation of communication disorders following an ABI.

Raising awareness, improving policy and enhancing multidisciplinary collaboration are key to addressing the long-term societal and economic burden of ABI. Further advocacy and targeted research are needed to improve understanding of communication outcomes and to inform effective service models. SLTs are uniquely positioned to drive research, shape services and influence commissioning by:

- collecting and sharing outcome data to inform service evaluation and evidence-based commissioning
- using unmet clinical needs to inform and prioritise local research agendas
- advocating for the inclusion of ABI and communication disorders within local research priorities and funding applications

- demonstrating the impact of SLT intervention on communication, participation and long-term recovery
- collaborating with academic, clinical and community partners to co-design applied research projects.

By actively contributing to local research and policy discussions, SLTs can help ensure that practice reflects current needs, strengthens the case for service investment and keeps UK data relevant and up to date.

Collaborative networks such as the **Clinical Academics in SLT CEN**, **RCSLT Research Champions** and **clinical academic mentoring network** provide important infrastructure to support clinicians in developing research capacity, building partnerships and translating evidence into practice. These networks may help SLTs to contribute meaningfully to national and international research efforts and to advocate for research-informed commissioning.

Furthermore, several professional and research organisations have identified ABI as a key priority area:

- UK Acquired Brain Injury Forum (UKABIF) – advocating for improved recognition, research and service delivery
- National Institute for Health and Care Research (NIHR) – supporting applied health research and innovation in neurorehabilitation
- British Paediatric Neurology Association (BPNA) – highlighting paediatric ABI within its research priorities including a paediatric neurorehabilitation special interest group
- James Lind Alliance (JLA) – priority-setting partnership, influencing research funders to commission studies that are more relevant and useful in practice.

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Recruitment to the working group was established by applications to the RCSLT. Applications were reviewed to ensure there was representation across a predetermined set of skills and characteristics. There were no declared conflicts of interest within the group.

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Experts by experience

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