Dear Reader,

This newsletter marks our achievements in the second year of MOVING AHEAD. MOVING AHEAD is an NHMRC Centre of Research Excellence in Traumatic Brain Injury which commenced in April 2012. The specific goal of the CRE is to improve psychosocial outcomes after TBI.

Our team of Chief Investigators comprises some of the most well-known researchers in this field in Australia: Prof Skye McDonald (UNSW), Prof Vicky Anderson (MCRI), Prof Jennie Ponsford (Monash University), Prof Robyn Tate (SydUni), Prof Leanne Togher (SydUni), Dr Angela Morgan (MCRI), Dr Jenny Fleming (UQ), Prof Jacinta Douglas (La Trobe), Dr Tamara Ownsworth (Griffith University) and A/Prof Cathy Catroppa (MCRI). Together with our team of wonderful Associate Investigators and our Post-doctoral and PhD students we have a comprehensive and impressive research team capable of really making a difference in the Australian and international landscape in terms of improving the lives of people with TBI and their families and in terms of making clinical research in this field a vibrant, interactive network of clinicians and researchers. We also have an expert advisory team of eminent international researchers to help guide directions of the CRE.

The CRE has four broad aims: (1) to pursue specific research projects to improve psychosocial outcomes; (2) to facilitate knowledge transfer between research and clinical practice and to foster research in practice; (3) to train the researchers of tomorrow and (4) to increase collaboration. We have been working together over the past 2 years to address each of these aims and a short overview of what we have done towards these is detailed overpage.

In addition, the CRE represents a network of researchers across Melbourne, Sydney and Brisbane who are engaged in numerous studies to address psychosocial rehabilitation following TBI. In this newsletter we have detailed some of the individual projects of our students and CIs that have been conducted over the past 12 months or are currently in the planning stages, commencing from Page 11.

We hope you find this newsletter informative and interesting. Please give us your feedback at movingahead@unsw.edu.au and do visit our website for more information and for updates throughout the coming year. You can also find a fuller description of the CRE in the following journal article:


Best wishes,

Skye McDonald
Aim 1: To pursue specific research projects to improve psychosocial outcomes.

Five projects representing collaborations across CRE members were initiated in 2012:
1. Speech production in adults: (MCRI: Angela Morgan)
2. Facilitating home-life: (MCRI: Vicki Anderson & Cathy Catroppa)
3. Facilitating friendships: (USYD/La Trobe: Leanne Togher & Jacinta Douglas)
4. Self-awareness: (UQ/Griffith: Jenny Fleming and Tamara Ownsworth)
5. Emotion regulation: (UNSW/USYD: Skye McDonald and Robyn Tate)
6. Addressing anxiety and depression: (Monash Uni, Jennie Ponsford)


Aim 2: Knowledge transfer

In 2013 this objective was pursued by: (1) maintaining Moving Ahead’s website providing a portal to (a) research activities of the CRE (b) PsycBITE and SpeechBITE (providing access to all published empirical research on remediation for problems associated with TBI) (c) evidence based resources for treating/assessing psychosocial disorders; (2) development of a webinar series (commencing in 2014) presented via ASSBI; (3) ongoing engagement with the NSW TBI evidence based practice group (McDonald).

Aim 3: Research training

The CRE aims to support research training. This has commenced via several initiatives in 2013: (1) appointments of PDs and PhD students specifically to foster training (see Pages 35-43); (2) second annual meeting (Hobart, May 2013) involving PostDoctoral fellows in April and post-graduate research meeting (UNSW) held in Sydney in November 2013 (see Page 6), (3) advertising of seed grants to foster research by clinicians with three successful grants awarded in December 2013 (see Page 4).

Aim 4: Increase collaboration

The CRE also aims to increase collaboration within CRE members and between the CRE and the broader national and international community. This has commenced via (1) establishment of an international panel of experts as the CRE Advisory Board (2) new collaborations between CIs on CRE research projects (see Aim 1 above) (3) new collaborations between CIs on grants (e.g. new project grant awarded to Ownsworth, Fleming and Tate, 2012; new grant application by McDonald, Ownsworth, Togher and Ponsford, submitted 2014 (4) a collaborative research project involving all CRE members aimed at devising a standardized protocol for assessing psychosocial outcomes (5) the intention to develop a Clinical Advisory Board (nominations will be called for in 2014- see Page 47 for more details).
CRE Seed Grants

In 2013, the Moving Ahead CRE awarded three small seed grants to the value of $2,000 each. The aim of these grants was to provide some assistance to outstanding individuals who were undertaking, or were about to embark on, promising research that was consistent with the overall goals of Moving Ahead. Applications for the grants were highly competitive. The lucky recipients included Diane Whiting, Elise Elbourn and Sylvia Nguyen.

A Trial of Acceptance and Commitment Therapy to facilitate psychological adjustment after severe traumatic brain injury

Diane Whiting, Frank Deane, Joseph Ciarrochi, Hamish McLeod and Grahame Simpson

What the study will be about:
Adjusting to the changes wrought by traumatic brain injury (TBI) often results in high levels of psychological distress and behavioural avoidance. These high levels of psychological distress may impair post-injury rehabilitation or engagement in meaningful activities for the person with the brain injury. The project involves the undertaking of a treatment intervention trial using Acceptance and Commitment Therapy (ACT) with an active control (Befriending) for the treatment of psychological distress after a severe traumatic brain injury. This project has three components: 1) explore the construct of psychological flexibility on a TBI population; 2) validate two measures of psychological flexibility on a TBI population for use in the clinical trial and; 3) to undertake a clinical trial using ACT to treat psychological distress.

What we have done:
The first two components of the study have finished data collection with 75 participants having completed a large battery of measures and an additional 75 participants completing a measure of psychological flexibility for the purposes of a factor analysis. The data is currently being analysed and written up for publication. With regard to the clinical trial, to date, 16 participants have been recruited with 14 completing the treatment, 7 in each group (ACT or Befriending). It is proposed to recruit an additional 4 participants in 2014 giving a total of 9 in each group for a final sample of 18.

What we expect to find:
It is hoped that this project will contribute to the empirical support for treatment of psychological distress after a traumatic brain injury. The seeding grant will be used to improve treatment fidelity in the area of standardisation of intervention delivery. Treatment adherence (fidelity) is a crucial element in the trial design and additional funds will allow independent review of treatment sessions to ensure they comply with both the treatment manual and that they are consistent with ACT and Befriending protocols.

To read more about this study:
Cognitive Behaviour Therapy to Treat Fatigue and Sleep Disturbance after Traumatic Brain Injury

By Sylvia Nguyen, Jennie Ponsford, Adam McKay, Dana Wong, Shantha Rajaratnam

What the study is about:
Fatigue and sleep difficulties frequently occur after traumatic brain injury and can interfere significantly with everyday functioning and quality of life. Despite how common these symptoms are, there is presently no evidence-based treatment available. While the exact causes for fatigue is still unclear, it appears strongly related to sleep disturbance, pain and mood. Cognitive Behavioural Therapy (CBT) is a promising treatment and may be able to address the factors that maintain these symptoms. The aim of this study is to be the first controlled trial to evaluate whether CBT is an effective intervention for fatigue and insomnia after adult traumatic brain injury.

What we have done so far:
A manualized CBT treatment has been developed specifically for adult traumatic brain injury and pilot data has been collected. The next step is to complete a controlled trial comparing participants who receive therapy with those receiving treatment as usual. The two groups will be compared across three time points on measures of fatigue, sleep, mood, quality of life and self-efficacy in managing symptoms.

What we found so far:
Pilot participants reported improved sleep and mood. While fatigue symptoms remained fairly stable, its impact on physical functioning and daily activities decreased. Participants reported greater control over their symptoms and these gains were maintained over time. We expect these trends to continue in the controlled trial and for participants in therapy to report better outcomes relative to those not receiving treatment. Findings of this study may be used to inform future clinical services.

Communication Recovery after TBI

By Elise Elbourn, Prof. Leanne Togher, Dr. Belinda Kenny & Dr. Emma Power

What this study is about?
Recovery of communication skills following severe traumatic brain injury is a largely unknown topic despite its key role in brain injury rehabilitation. The specific aims of this study are to explore the recovery of discourse impairments in the first year following injury.

What is the current progress on this study?
Our research team has obtained discourse samples from a cohort of 58 participants with TBI in the first 12 months following injury. We have used a newly developed and internationally recognised ‘TBI Bank’ discourse protocol which is currently being trialled for best practice in assessment and repeated assessment of discourse. The discourse samples will be analysed with a focus on the recovery trajectory. This CRE Seed grant will support the transcription and coding necessary for discourse analysis.

What will this study contribute?
This is the first study to trace discourse recovery in the sub-acute stage after TBI. It is anticipated that this information will be highly useful for rehabilitation providers, particularly with regard to timing and prioritisation of speech pathology services. The samples we have collected will also contribute to an international research database.
Facilitating psychosocial adjustment after brain injury: Goal planning, self-identity and self-awareness interventions

ASSBI Workshop, Hobart, 2 May 2013

Jennifer Fleming and Tamara Ownsworth presented this one day workshop addressing the related issues of impaired self-awareness, adjustment to disability and self-identity following traumatic brain injury.

ASSBI Webinar Series

ASSBI is currently offering 6 one-hour webinars which will run throughout 2014. Topics that are relevant to traumatic brain injury include:

- PsycBITE: An internet resource to help you find the evidence you need for treating your client with brain impairment. By Professor Skye McDonald, February 2014
- Training communication partners how to interact with TBI: Assessment and treatment considerations. By Professor Leanne Togher, 1st April 2014
- Evaluating and Managing Depression after TBI. Professor Jim Malec, 3rd June 2014
- Fatigue and sleep disturbance following traumatic brain injury- creating an evidence base for development of efficacious treatments. By Professor Jennie Ponsford, 2nd December 2014

For more information or to register go to: www.assbi.com.au/webinars

Facilitating psychosocial adjustment after brain injury: Goal planning, self-identity and self-awareness interventions

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2013 Postdoctoral and Postgraduate Planning Days

University of New South Wales, Sydney, 14th-15th November, 2013

By Heather Francis

This two day meeting was held to enhance research capabilities and promote collaboration between postdoctoral and postgraduate research members of the Moving Ahead CRE. Professor Skye McDonald opened the meeting with a keynote address, where she spoke about psychosocial issues following traumatic brain injury and the challenges of conducting research in this area. Over 29 researchers attended from various research institutions across Australia. We had over 20 presentations which included educational talks on topics such as conducting Acceptance and Commitment Therapy (Dr Frank Muscara), becoming a successful researcher (Dr Bronwyn Graham), applying for grants and scholarships (Dr Jacqueline Rushby), Structural Equation Modelling (Dr Cynthia Honan), a mixed models approach to analysing longitudinal data (Dr Fiona Kumfor) and the use of PsycBite to evaluate interventions (Prof Skye McDonald). Presentations by PhD and Postdoctoral researchers allowed members to showcase their research to other researchers in the field of traumatic brain injury and to gain valuable feedback from CRE members with varying experience and perspectives. The meeting enabled members to explore collaborative opportunities with their CRE colleagues and expand their professional networks.

We are always very keen to receive suggestions for future workshops and research training opportunities, so please don't hesitate to contact us with your ideas! Just drop us an email at movingahead@unsw.edu.au
Moving Ahead Clinician Survey
Study in Progress

Elizabeth Pagan, Tamara Ownsworth, Skye McDonald, Cynthia Honan, Jenny Fleming

What this study is about:
The Moving Ahead Clinician Survey was launched in May 2013.

This research aims to investigate the barriers to effective intervention for clinicians conducting neuro-rehabilitation with traumatic brain injury clients. Additionally, it aims to identify professional development preferences of clinicians.

What we are doing:
A total of 442 participants responded to the survey in electronic (n=358, 81%) or hard copy version (n=84, 19%) from 31 countries. After preliminary data cleaning, the Australian sample size for analysis is 305.

Analysis will focus on which barriers to intervention are most commonly perceived by clinicians (e.g., client-related factors such as fatigue; client-family factors such as not having family support; workplace-related factors such as caseload size; or professional skill such as knowledge of evidence-based practice) and clinician confidence level in overcoming these barriers in their practice. The information gained from the survey results will support the aim of the CRE to advance the clinical and research training of professionals working in the field of traumatic brain injury.

Results will be available later in 2014.
Rehabilitation for Everyday Adaptive Living, 2nd Edition
by Jennie Ponsford, Sue Sloan and Pamela Snow

Social Communication Disorders Following Traumatic Brain Injury, 2nd Edition
by Skye McDonald, Leanne Togher and Chris Code

A compendium of Tests, Scales and Questionnaires
by Robyn L Tate

Self-Identity after Brain Injury
by Tamara Ownsworth

Developmental Neuroscience and Childhood Brain Insult
by Vicki Anderson and Miriam H. Beauchamp

Dysphagia Post Trauma
by Elizabeth C. Ward and Angela T. Morgan
TBI - Express: Social Communication training for people with TBI and their communication partners
by Togher, McDonald, Tate, Power, Ylvisaker & Rietdijk

Improving First Impressions: A step-by-step Social Skills Program
by McDonald, Bornhofen, Togher, Flanagan, Gertler, & Bowen

Managing Social Anxiety Following Traumatic Brain Injury
by Hodgkinson & McDonald

Reading a Smile (and Other Great Expressions): An Emotion Perception Treatment Program
by Bornhofen & McDonald

For more information on CRE's treatment, assessment and publication resources, please see our website: moving-ahead.com.au
As part of its aim to support research in clinical practice, the Moving Ahead website provides links to both PsycBITE and SpeechBITE.

PsycBITE and its sister database SpeechBITE are readily-available, free web-resources developed by members of the CRE. These can be accessed directly in the internet or via the MA webpage. PsycBITE contains all published, empirical reports on the effectiveness of non-pharmacological interventions for the psychological consequences of acquired brain impairment (currently over 4400 records). SpeechBITE contains all published empirical reports attesting to the effectiveness of treatments for speech, language and swallowing disorders (currently over 4265 records). Using these databases, clinicians, consumers and researchers can, at the touch of a button, access all studies for a given treatment, which are rated for and ranked on the database by their methodological quality. This makes it easy to identify the best evidence. The databases are updated monthly.

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<tr>
<th>Easy search for treatments</th>
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<th>Ratings of methodological quality</th>
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<td>Access to all papers that target a given problem (e.g. memory) at the press of a button</td>
<td>Access to a large selection of summaries of techniques used in good quality studies</td>
<td>Provision of a methodological rating by which to gauge the scientific validity of the study</td>
<td>Step by step training in how to evaluate RCTs (launched in July 2012)</td>
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<td>Step by step training in evaluating n-of-1 trials (in preparation)</td>
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New SpeechBITE Home page - check it out!

PsycBITE Home page, currently being redeveloped - new website will be live soon!
Outcomes of childhood head injury – 15 year follow-up

Cathy Catroppa, Celia Godfrey, Vicki Anderson

For the 15-year follow-up of our longitudinal study of childhood TBI previous participants and their families were contacted with an invitation to participate in the study. Participants, now aged between 15 and 27 years, were assessed on an individual basis by an experienced psychologist over two sessions of two hours, with MRI scans conducted on the same day. Information regarding areas such as quality of life, general health, psychosocial functioning, emotion perception, and psychiatric disorders was collected, including questionnaires completed by a significant other. All participants received a detailed neuropsychological report including findings from the MRI scan, with recommendations and referral as required.

To date, we have found that age at injury and pre-injury adaptive functioning predicts cognitive and functional outcome in the very long term post TBI. Preliminary analysis of the total 15-year dataset suggests that childhood TBI survivors present with impairments in the areas of memory, social cognition and social functioning, with significant links to frontal lesions and the integrity of the corpus callosum.

At this age, healthy individuals are typically engaged in employment of some kind, often starting their own families, managing their own finances, and contributing as responsible, law-abiding members of society. Our ongoing data analysis from this prospective longitudinal study offers the chance to examine how these increasing responsibilities are managed by those with a history of TBI, and to identify areas where intervention in early post-injury days may prevent later problems.

Preliminary efficacy of an attention and memory intervention post-childhood brain injury

Cathy Catroppa, Kate Stone, Stefanie Rosema, Cheryl Soo, & Vicki Anderson

What the study was about:
Impairments in attention and memory are common consequences following paediatric acquired brain injury (ABI). Despite this, there is a scarcity of evidence-based interventions for these difficulties. The current study aimed to pilot the feasibility and efficacy of the English version of the Amsterdam Memory and Attention Test for Children (Amat-c) and to identify ecologically valid measures sensitive to post-evaluation improvements. It was expected that children with attention and memory difficulties post-TBI would show improved performance post-intervention on traditional cognitive measures and on measures of everyday performance.

What we did:
Three children (case study design) with an acquired brain injury (near drowning, birth delivery complications, fall from a horse) and currently between the ages of 8–13 were identified through audits of presentations to a metropolitan paediatric hospital. Each child underwent screening, pre-intervention and post-intervention assessments (immediate and 6 months).

What we found:
Results indicated improved performance in the areas of attention and memory from pre- to post-intervention, with gains maintained at 6 months post-intervention.

Conclusions and implications:
Findings demonstrate initial support for efficacy of the Amat-c and its use with survivors of child ABI to alleviate common cognitive and functional consequences. A larger study is needed to further confirm these findings.
Depression in Adolescents following mild Traumatic Brain Injury

Cathy Catroppa, Celia Godfrey, Vicki Anderson

Until recently, mild traumatic brain injury (mTBI) has been considered a relatively benign event, with most evidence indicating that victims experience only a short period of impairment, known as post-concussional syndrome (PCS). In adults PCS commonly persists for only several days, after which victims can return to work and sports successfully. In children and adolescents, the recovery path is more prolonged, with most victims demonstrating PCS for up to 30 days (Crowe et al., in submission), and resolution usually achieved by 3 months. However, 5-10% remain symptomatic at 1 year (Barlow et al., 2010). The cause of these persisting symptoms is largely unknown at present. What is clear is that enduring symptoms (fatigue, headache, poor concentration, irritability) have a significant impact on the young person’s capacity to return to school, leisure and sports. Consequently, they may fall behind in their studies and be unable to participate fully in daily life.

While some young people adjust to these limitations, a significant number will have difficulty adjusting, and develop depression, anxiety and post-traumatic stress. These ‘internalized’ mental health problems may go undetected and untreated, further impacting the young person’s quality of life (Anderson, et al 2011). This project investigates mental health outcomes in adolescents with mTBI. This data will enhance our understanding of depression following mTBI and will inform future research into mental health outcomes.

AIMS:
1) Investigate the rate and nature of depressive symptoms in adolescents with a recent history of mTBI;
2) Identify predictors of Depression specific to adolescent mTBI survivors;
3) Inform the development of an intervention specific to the needs of an adolescent population post mild TBI with Depressive symptomatology and/or diagnosis.

Signposts online - A pilot study with families of children with an Acquired Brain Injury

Study in Progress

Kaitlyn Taylor, Cathy Catroppa, Celia Godfrey, Jan Matthews, Damith Woods, Audrey McKinlay, Vicki Anderson

This project involves investigating the applicability of the Signposts for Building Better Behaviour program in assisting parents to manage the difficult behaviour of their children with an Acquired Brain Injury (ABI). The Signposts program has been developed for, and evaluated with families of children with disabilities, and therefore, requires an initial pilot before further extensive experimental research is conducted with families of children with an ABI. Thirty parents of children with an ABI will receive the Signposts program using ipads via video-conferencing technology (GoToMeeting). The opinions of parents about the acceptability and appropriateness of the aims, mode of delivery and instructional strategies of the program will be obtained. Parents will also complete self report measures at pre-intervention, post-intervention and three months after the intervention. These will include measures of child behaviour, parental depression, anxiety, stress, parenting confidence, parenting hassles and consumer satisfaction.
Longitudinal communication outcomes following traumatic brain injury
Leanne Togher, Robyn Tate, Skye McDonald, Lyn Turkstra, Audrey Holland, Brian MacWhinney.

What this was about?

This project will trace communication recovery in adults with severe traumatic brain injury (TBI). The project will identify recovery patterns during the time frame of 3 months to 2 years post TBI. Knowledge of factors that impact upon recovery patterns, when to attempt communication rehabilitation and how long to attempt it, will support delivery of speech pathology services in brain injury rehabilitation units and other health care settings. Findings from this study will also make an important contribution to international TBI research and education by providing data for the TBI Bank multimedia database. This database will facilitate future research in diagnosis and intervention for communication disorders following TBI.

What we did:
Fifty eight participants have been recruited from three Sydney brain injury rehabilitation Units. Each participant will complete comprehensive speech pathology and screening neuropsychology assessment protocols to evaluate his/her communication outcomes at 3, 6, 9 months, 1 year, and 2 years post injury. Data collection has been completed for participants who have reached 3, 6, and 9 month recovery points and is continuing for participants who are approaching 12 months and 2 years post injury time frames.

What we found:
Data analysis has commenced with a focus upon recovery during the first 3 to 6 months post injury. Elise Elbourn (PhD. student) is examining the nature and frequency of communication impairments, including aphasia and dysarthria, following severe TBI and exploring relationships between speech and language impairments and perceived social and cognitive-communication skills for people with TBI. Two speech pathology honours students are investigating recovery of conversational skills at 3 and 6 months by analyzing topic selection and supported communication techniques demonstrated by adults with TBI and their conversational partners.

These findings may inform speech pathology intervention during the early stages of rehabilitation by providing insight into the linguistic, social and cognitive communication difficulties experienced by adults with severe TBI. Future analyses will examine communication recovery during later stages of rehabilitation.
Investigations of friendships following traumatic brain injury (TBI)

Tennille Thomasz, Leanne Togher, Emma Power & Jacinta Douglas

What this study is about:
This study is about friendships following traumatic brain injury. The aims are to determine current speech pathology practice when working with friends of those who have sustained a TBI. We will also consider the perspectives of people who were or continue to be friends of someone who has sustained a TBI.

What we will be doing:
To achieve these aims we will be conducting an online survey. Speech Pathologists will be surveyed to determine whether working with friends is current practice. The survey will also assist with developing an understanding of any barriers that speech pathologists face that affect the ability to work with friends. The survey results will be analysed using qualitative and quantitative methods.

The second aim will be achieved by conducting semi-structured interviews. Interviews will be conducted with friends. A person with TBI will identify people as friends. The interviews will be transcribed and analysed using a grounded theory methodology.

Improving quality of life and communication skills for people with acquired brain injury (ABI) following project-based therapy.

By Nicholas Behn, Madeline Cruice, Jane Marshall and Leanne Togher

What the study is about:
Communication impairments are common following acquired brain injury (ABI) and have a significant impact on a person’s quality of life post-injury. Therapy can involve conversational skills training and training the communication partner (i.e. family member, paid carer). While both approaches improve communication skills, quality of life is less amenable to change. An alternative therapy, called project-based therapy, has been proposed where a person with ABI works collaboratively towards a common goal (or project), providing a meaningful, engaging and motivating environment. This study will evaluate the effect of project-based therapy on improving the communication skills and quality of life for people with ABI.

What we will be doing:
Twenty-four people with ABI with communication impairments will be selected to participate in this study (twelve will be allocated into a delayed treatment group). Following an initial assessment, the therapy will involve 10 sessions over 6 weeks (each session lasting 2 hours). The first therapy session will involve identifying individualised communication goals and useful strategies for the person with ABI and their communication partner. The next nine sessions will be group sessions (of three people) and will work towards achieving a meaningful project identified by the group. Each of these sessions will provide a supportive environment for people with ABI to work on their communication goals and problem-solve, plan and organise a range of tasks to achieve the project. Regular text-messages will be sent to people with ABI to remind them of their individualised goals and any tasks they need to do to complete the project. It is anticipated that people with ABI will have better conversations and report a higher quality of life following the therapy. The design of this study will also enable the researchers to identify what are the most critical components of project-based therapy for people with ABI.

For more information…
Some of the completed projects can be located on YouTube (“brain injury projects”). https://www.youtube.com/channel/UCL_KmMcSwrsl_HdwTddc0pA
Using telehealth for improving the communication skills of people with traumatic brain injury and their carers

By Rachael Rietdijk, Leanne Togher, Emma Power and Melissa Brunner

What the study is about: Many families have little access to support regarding how to manage communication problems after TBI, particularly in rural and remote regions. A possible solution is the use of telehealth to provide communication training for families. An initial reliability study currently in progress will evaluate whether social communication skills can be assessed as accurately using Skype as compared to an in-person assessment. This study will also use qualitative methods to explore the perceptions of people with TBI and their carers regarding the use of telehealth for brain injury rehabilitation. The next phase of the project will involve a pilot study of a Skype-based intervention for people with TBI and their family members, based on an adaptation of the “TBI Express” treatment program.

What we are planning to do: For the reliability study, we have completed assessments and qualitative interviews with 7 participants residing in regional or rural NSW and 7 participants residing in Sydney. We are planning to recruit a further 6 participants for the reliability study during 2014. We will be comparing the Skype-based assessment with the in-person assessment in terms of: (a) independent ratings of the conversations between people with TBI and their communication partner, and (b) questionnaires about communication completed by the person with TBI and their communication partner. The two modes will also be compared in terms of efficiency of time and participant satisfaction. The qualitative interviews will be used to investigate participants’ experiences of the two different assessment sessions and their views on the potential for using telehealth for brain injury services. We also plan to commence the pilot of the Skype-based communication intervention during 2014.

Self-awareness of cognitive-communication deficits following traumatic brain injury

Study in Progress

Jason Bransby, Dr. Emma Power and Prof. Leanne Togher

What this study is about? Impaired self-awareness is a common sequelae of traumatic brain injury (TBI). Research suggests that people with TBI who have poor awareness of their deficits are less likely to engage in rehabilitation, have difficulty setting realistic goals, and may have poorer long-term rehabilitation and vocational outcomes. Previous research has shown that people with TBI are usually more aware of physical and memory deficits than they are of emotional, cognitive and social communication deficits. This presents a significant challenge for the speech pathologist, who is often faced with resistance when treating clients with cognitive-communication deficits. These deficits may include verbosity, poor turn taking and difficulty selecting and maintaining topics of conversation. Clients may fail to verbally acknowledge these deficits and may have difficulty recognising and self-correcting these communication errors when they occur “online”.

Previous research in the occupational therapy and neuropsychology literature has shown that metacognitive techniques can improve self-awareness. These techniques include self-prediction and anticipation of errors, systematic cueing, and verbal and video feedback of performance. In previous studies, these techniques have been applied in the context of activities of daily living (e.g. cooking, wrapping a gift), and participants have shown an increase in their recognition and self-correction of errors within the context of these tasks. It is unknown whether these techniques have the same effect on communication.

What we will do There are two aims of this study. Firstly, we will investigate whether online awareness of communication can be reliably measured. Secondly, we will develop a self-awareness treatment protocol and evaluate its effectiveness in increasing awareness of errors during monologic and conversational discourse, using a single case multiple baseline design.
Revision of a method quality rating scale for single-case experimental designs and n-of-1 trials: the 15-item Risk of Bias in N-of-1 Trials (RoBiNT) Scale

What this study was about:

Recent literature suggests a revival of interest in single-case methodology (e.g., the randomised n-of-1 trial is now considered Level 1 evidence for treatment decision purposes by the Oxford Centre for Evidence-Based Medicine). Consequently, the availability of tools to critically appraise single-case reports is of great importance.

We report on a major revision of our method quality instrument, the Single-Case Experimental Design Scale. Three changes resulted in a radically revised instrument, now entitled the Risk of Bias in N-of-1 Trials (RoBiNT) Scale: (i) item content was revised and increased to 15 items, (ii) two subscales were developed for internal validity (IV; 7 items) and external validity and interpretation (EVI; 8 items), and (iii) the scoring system was changed from a 2-point to 3-point scale to accommodate currently accepted standards.

Psychometric evaluation indicated that the RoBiNT Scale showed evidence of construct (discriminative) validity. Inter-rater reliability was excellent, for pairs of both experienced and trained novice raters and intraclass correlation coefficients of summary scores ranged between .87 and .95.

The RoBiNT Scale thus shows sound psychometric properties and provides a comprehensive yet efficient examination of important features of single-case methodology.
Impaired Austin Maze task performance after acquired brain injury: A failure to “learn from past mistakes”?

Skye McDonald, Alana Fisher & Rebekah Randall

What the study was about:

Acquired brain damage can lead to problems with new learning. It can also affect problem solving making it difficult to plan ahead or make use of mistakes when they do occur to modify ongoing behaviour so that errors are reduced. While there are a large number of tests of learning available there are few that are sensitive to problems with spatial learning (such as learning a route) and also the ability to utilise errors. One such test is the Austin Maze which was originally developed as a button press maze. A new computerised adaption is now available which is cheaper, and more readily available to clinicians and researchers. This test seems to be quite reliable but we wanted to know how people with brain injuries performed in comparison to matched healthy controls.

What was done:

Thirty-one adults with an acquired brain injury (28 severe TBI, and 3 stroke) and 31 gender-, education-, and age-matched adults without brain injuries participated. Participants completed the computerised version of Austin Maze, where they are required to learn the correct pathway from start to finish by pressing square blocks one-by-one within a 10 x 10 array. Participants were provided with error feedback as they did the task; a criterion of three errorless trials within 20 trials was applied. Participants then completed neuropsychological measures of: information processing speed, attentional switching, working memory, immediate and delayed verbal recall, visuospatial planning and memory.

What we found:

Compared to non-brain-injured Controls, brain-injured participants made more errors (in total and to trial 10) and required more trials before reaching 3 errorless trials (p < 0.05). A greater proportion of brain-injured participants than Controls failed to complete 3 errorless trials, however, this was not significant (p > 0.10). Brain-injured participants performed significantly worse than Controls on all neuropsychological measures (p < 0.05) except for verbal recall and visuo-spatial planning. Neuropsychological performance was significantly correlated with all three measures of performance on Austin Maze (p < 0.05).

What we concluded:

The Austin Maze appears sensitive to deficits in planning, error utilisation and regulation, which can affect adults who have an acquired brain injury. It therefore has the potential to be a useful addition to neuropsychological tests.

To read more about this study:

Development and validation of a tool for assessing social skills in individuals with acquired brain injury.

By Heather Francis & Skye McDonald

What the study is about:

Reductions in social functioning are common following traumatic brain injury (TBI) and include violation of social customs, poor emotion recognition, irritability, poor communicative ability and repetition in conversations. These deficits are often rated by relatives as the most difficult to come to terms with and result in poor reintegration, difficulty returning to work and relationship stress. Social skills measures are therefore important in early identification of social skills deficits in need of remediation in a clinical context, as well as for evaluation of training programs that address social functioning. One potential measure is the Social Performance Survey Schedule (SPSS), however, two previous datasets showed that individuals with TBI did not have lower scores on the SPSS negative subscale compared to a normative population. Analysis of the face validity of the items comprising this existing measure suggested that many items were not suitable for a TBI population. The aim of this project is therefore to develop a new tool for measuring social skills, using a number of appropriate items from the SPSS, as well as some additional items. We describe the validation of this tool for use in an acquired brain injury population.

What we are doing:

We have developed a questionnaire consisting of 35 statements, which a relative or close other of an individual with TBI is asked to rate on a five point likert scale. The questionnaire comprises two subscales, positive and negative social skills. We have conducted a retrospective analysis of data obtained in a previous study where the SPSS and additional items were administered to TBI participants in conjunction with additional behavioural measures and on repeated occasions. Currently, we also aim to recruit brain injured patients and their relatives. Brain injured patients will perform The Awareness of Social Inference Test (TASIT) and relatives will complete the new social skills questionnaire, as well as other questionnaires for comparison. We expect to find that brain injured patients who are rated by their relative as having poorer social skills, will also have poorer scores on other informant rated scales and poorer performance on the TASIT.

What we have found so far:

Retrospective analysis of the previously obtained data from 40 individuals with TBI showed that the two subscales, negative and positive social skills, had good internal consistency (α=.93 and α=.90 respectively). Ratings on the 35 items correlated significantly with social perception as measured by the three scales of the TASIT (r=.360 - .449). Significant correlations were also obtained with other measures of social performance; Katz Adjustment Schedule-R1 (r=.734) and the Sydney Psychosocial Reintegration Scale (r=.501). Twenty-three individuals completed the items on repeated occasions, demonstrating good test-retest reliability (r = .89, p < .001).
Facial emotion recognition deficits following a Traumatic Brain Injury (TBI): Re-examining the valence effect

Hannah Rosenberg, Skye McDonald, Marie Dethier, Roy Kessels & Fred Westbrook

What the study is about:
Difficulties interpreting social situations and understanding the emotions portrayed by others are common following traumatic brain injury (TBI). The ability to quickly and accurately recognise how other people are feeling is crucial in a variety of everyday social situations, and improving our understanding of these difficulties is important in order to promote functioning post-injury. An issue that arises from research into emotion recognition concerns the differential difficulty in recognition of the various emotions. Research suggests that while some emotions (such as happiness) are easier to recognise, others (such as fear) are more difficult. This means, for example, that it is generally easier to recognise when someone is happy than when that person is scared.

What we are doing:
The research is being conducted as part of a Ph.D in the School of Psychology at the University of New South Wales. Participants with a brain injury as well as control participants were asked to view a series of real-time interactive morphs of faces, between two endpoint facial expressions of the same identity, from 0% emotion (neutral face) to 100% emotion. The faces expressed six emotions: happiness, surprise, anger, disgust, sadness and fear, in different intensities, ranging from 20% to 100%. They were asked to select what emotion best described how the person in the picture was feeling, as well as to undergo conventional neuropsychological tests.

What we found:
The TBI group was more impaired in overall emotion recognition, and less accurate in the recognition of negative, compared to positive emotions. However, examining the performance across the different intensities indicated that this difference was driven by some emotions (e.g., happiness) being much easier to recognise than others (e.g., fear and surprise). In terms of intensity, TBI participants benefited from increased intensity to the same level as controls on anger, sadness, and disgust. They benefited more than controls on happiness, and less than controls in fear and surprise.

To read more about this study:
This study is currently under review: Rosenberg, H, McDonald, S., Dethier, M., Kessels, R.P.C., & Westbrook, R.F. (under review). Facial emotion recognition deficits following a Traumatic Brain Injury: Re-examining the valence effect.
Emotion perception after a Traumatic Brain Injury: the valence effect is an artefact

Hannah Rosenberg, Skye McDonald, Marie Dethier, Roy Kessels & Fred Westbrook

What the study is about:
This study is a follow-up on ‘Facial emotion recognition deficits following a Traumatic Brain Injury (TBI): Re-examining the valence effect’ study outlined above. The earlier study indicated that that the finding that people with TBI are poorer in recognising negative (such as sadness, disgust, fear, and anger) than positive (such as happiness and surprise) emotions is confounded by differential difficulty, i.e., some facial expressions being easier than others to recognise. This is a serious confound in emotion recognition research since it limits the conclusions about specific impairments in recognition of some emotions.

What we are doing:
To address this issue, we attempted to equate the six emotions on difficulty. This was done by equating the different emotions (using the ERT described in the earlier study) by selecting emotional videos that were correctly recognised by controls approximately 50-70% of the time. This resulted in a selection of emotional expressions that were more similar in terms of difficulty.

The aims of this study were threefold. First, we aimed to compare the recognition of the equated stimuli to the recognition of 100% full blown expressions (that are most commonly used in emotion recognition research). Second, we aimed to examine whether emotion recognition correlates with selected neuropsychological measures assessing working memory, processing speed and executive functioning. Third, we aimed to examine the hypotheses that the emotion recognition deficit in the TBI group is 1) a specific emotion recognition deficit due to injury or 2) the poorer performance in TBI is secondary to reduced working memory, processing speed and executive functioning.

The data analysis for this study is in progress, and some exciting results are on the way!!

To find out more about this study:
Contact Hannah Rosenberg: hannah.rosenberg@unsw.edu.au
What the study is about:

People who sustained a traumatic brain injury (TBI) often experience difficulties interpreting social situations and understanding the emotions portrayed by others. The ability to accurately recognise how other people are feeling is very important in a variety of everyday social situations. Emotion research to date has mostly focussed on recognition of six emotions (termed ‘basic’), namely happiness, surprise, sadness, anger, fear and disgust, and has revealed that recognition deficits are more robust for negative than positive emotions. This study aims to investigate emotion recognition in adults with TBI using a new measure of emotion recognition, the Complex Audio-Visual Emotion Assessment Task (CAVEAT). This measure was developed as part of Hannah Rosenberg’s PhD project and consists of video vignettes in which the observer is asked to judge what emotion is experienced by the person in the scene. It includes a wider array of emotions than are included in the conventional measures, such as contempt, amusement, pride, and relief.

This allows the investigation of subtle emotion recognition deficits in clinical populations and re-evaluation of the commonly reported findings that recognition of negative emotions is more impaired following a range of neurological conditions than positive emotions.

After extensive piloting and a year of data collection, we have finally tested 32 individuals with TBI and 32 demographically matched controls! We would like to thank all the individuals who contributed their time to take part in our research!

Data analysis is in progress, so stay tuned for some exciting results!!!

To find out more about this study:

Contact Hannah Rosenberg:

hannah.rosenberg@unsw.edu.au
Cognitive factors underpinning poor expressive communication skills after traumatic brain injury: TOM or Executive Function?

Skye Mcdonalds, Alison Gowland, Rebekah Randall, Alana Fisher, Katie Osborne-Crowley, Cynthia Honan

What the study was about:
People with traumatic brain injury (TBI) have impaired communication skills. It is unclear, however, whether this reflects difficulties in taking another person’s perspective, i.e., impaired Theory of Mind (TOM), or problems with executive dysfunction, which impedes regulation of language production. This study aimed to explore the extent to which TOM abilities and executive abilities, specifically flexibility and inhibition, contribute to language production.

What we did:
Twenty-five adults (18 males: age = 48.2 (SD = 12.0) years with moderate to severe TBI (post traumatic amnesia = 69.2 (SD = 54.6) days and 28 non brain-injured adults (19 males: age = 49.0 (SD = 12.2) years completed three communication tasks with (1) low executive (2) high flexibility and (3) high inhibition demands. Within each task, there were two parallel versions with low or high TOM demands.

What we found:
The TBI group were poorer than controls on two of the three low TOM tasks (effect size (ES): 0.05- 0.64) and all three high TOM tasks (ES: 0.67-1.11), as seen in Figure 1. For tasks (1) and (2) scores on the high TOM tasks were predicted by the low TOM scores, meaning that poor performance was explained by the executive demands the parallel tasks had in common. The exception was the high inhibition task. In this case speakers with TBI had specific difficulty inhibiting self-referential thoughts in order to cater for another’s perspective.

What we concluded:
People with a TBI are described as having egocentric nature of communication patterns, which may arise from problems with inhibiting one’s own perspectives on a situation. Attending to these inhibition problems represents a potential target for remediation.

Figure 1: Standard score (z score) performances for TBI and control groups for low versus high TOM tasks under conditions of 1) low executive demands 2) high flexibility demands and 3) high inhibition demands.
Impaired Emotional Prosody Processing in Severe Traumatic Brain Injury: An Event-Related Potential Study

Jacqueline Rushby, Skye McDonald, Francesca Froreich, Alana Fisher, Christopher Sufani, Jaimi Iredale & Aneta Dimoska

What the study is about:
Recent studies have shown that severe traumatic brain injury is associated with reduced sensitivity to emotional expressions in voice (i.e. emotional prosody). This impairment can lead to difficulties in interpreting and responding appropriately to significant socio-emotional cues in everyday social interactions (i.e., recognizing someone is sad from the way they are talking and consoling them in response). The present research investigated differences in neural processing of speech in severe TBI and control participants using electroencephalography (EEG) – an instrument that measures brain electrical activity, during particular tasks.

What we did:
Sixteen adults with severe TBI and 21 controls participants were fitted with (EEG) equipment whilst they performed an emotional prosody discrimination task. In the task participants were presented with 120 word pairs and were told to judge whether the word pairs were spoken in the same (i.e., happy-happy) or different (i.e., happy-angry etc.) tone of voice. Neural (or event-related potential: ERP) responses to word 1, from each of the 120 word pairs, were examined in this study.

What we found:
Behavioural results showed that participants with severe TBI were less accurate in judgment of same and different emotional prosody pairs. ERP results indicated that control and severe TBI participants did not differ in the early (100ms) perceptual processing of acoustics (pitch, intensity, duration) in speech. However, participants with severe TBI were more impaired in the late (300-800ms) attentive and cognitive processing stages of emotional prosody perception. Hence, severe TBI may result in impairments in attending to, and cognitively evaluating the emotional significance of tone of voice in speech. In the near future, we aim to investigate this further to inform social-emotional remediation programs for individuals with severe TBI.
Reduced brain volume and physiological responsivity explain dysregulated emotional arousal in severe TBI

Alana C. Fisher, Jacqueline A. Rushby, Skye McDonald, Nicklas Parks, Oliver Piguet

What the study was about:

Severe traumatic brain injury (TBI) is known to lead to impairments in how people respond to emotionally-salient events, such as facial expressions. Physiological measures, such as EEG alpha power and skin conductance levels (SCL), may provide measures of these emotional arousal deficits. Moreover, problems with emotional arousal may also be due to injury-related atrophy (volume loss) in certain brain structures, such as the insula and amygdala, which have an established role in regulating arousal and emotional responses. This study aimed to investigate the relationship between brain volume loss, physiological measures, and dyregulated emotional arousal and responsivity after severe TBI.

What was done:

Nineteen adults (15 males; mean age 44.89; mean education 13.47 years) with a severe TBI and 19 matched controls (15 males; mean age 43.95; mean education 14.79 years) (p > 0.05) participated. Magnetic resonance imaging (MRI) scan established bilateral insulae and amygdala volumes. Mean EEG alpha power and SCLs were recorded simultaneously across four, 2 minute conditions: eyes-closed pre-task baseline, view neutral face, happy face and angry face.

What we found:

Alpha suppression across the scalp occurred from pre-task baseline to the face-viewing conditions (p < .001), however, this reduction was smaller in TBI (p = .04), as can be seen in Figure 1. TBI participants also showed elevated alpha power in the hemisphere means, in contrast to controls’ midline dominance (all p < .01), together with a trend towards lower SCL (p = .051). Brain volume was significantly reduced in most structures in the TBI group; larger left insula and right amygdala volumes were associated with higher alpha power, and greater alpha suppression.

What we concluded:

The present findings suggest that alpha power provides a novel and sensitive measure of arousal dyregulation in TBI. Reduced grey matter volume in particular, important brain structures may contribute to these disturbances in arousal after TBI.

To read more about this study:

Deficits in comprehension of speech acts after TBI: The role of Theory of Mind and Executive Function

Cynthia Honan, Skye McDonald, Alana Fisher, Alison Gowland & Rebekah Randall

What the study is about:

Theory of mind (TOM) is a term used to describe a person’s ability to form inferences about another person’s beliefs or intentions, and is a critical component of effective communication. TOM abilities are mediated by frontal brain structures that are also thought to mediate executive processes such as cognitive flexibility, inhibition, and working memory. Given that frontal lobe brain structures are usually compromised following traumatic brain injury (TBI) it is not surprising that both abilities are commonly affected in this population. There is much debate, however, about whether TOM is dependent on executive functioning or not. The issue is complicated by the fact that many TOM tasks use complex stories requiring a significant capacity to understand. This study aimed to determine whether TOM is dependent on executive functions or whether these abilities are, in fact, modular (i.e., are independent functions).

What we did:

A group of 25 people with severe and 25 people with similar backgrounds but without any brain injury participated in the study. Videotaped vignette segments, containing a woman talking about her recent experiences or a news reader, were shown to all participants. The vignettes were specifically presented so that they contained either: minimal executive function demands, high cognitive flexibility demands, high working memory demands, or high inhibition demands. Participants completed both low and high TOM questions and tasks after viewing the vignettes in each of these varying executive conditions.

What we found:

In the high working memory demand condition, individuals with TBI were more impaired on high TOM tasks. This difference in TOM performance was removed after taking into account the high working memory demands of the task. There were no group differences found in high TOM tasks in the inhibition and flexibility conditions, even after controlling for the increased executive demands. This may indicate that TOM ability is independent of inhibition and cognitive flexibility demands, although further investigation is required. Overall, the results suggest that TOM does not uniquely contribute to communication comprehension ability, and that TOM ability is selectively dependent on working memory demands, in individuals with TBI.

To read more about the study:


Contact Dr Cynthia Honan: c.honan@unsw.edu.au
Development of the Social Disinhibition Task for people with Traumatic Brain Injury (TBI)

Cynthia Honan, Skye McDonald, Alana Fisher

What the study is about:

An important facet of social cognition that has not received adequate attention in the research literature is “social disinhibition”, the ability to inhibit socially inappropriate automatic responses in favour of more socially appropriate responses. Deficits in social disinhibition are common to many neurological conditions involving frontal lobe dysfunction (e.g., TBI), thus its measurement in clinical neuropsychology practice is highly important. Measures of inhibitory or interference control (e.g., Go No-Go tasks, Haylings Sentence Completion test) are often used in clinical practice to infer behaviour and emotion regulation difficulties in TBI populations. However, these tests may not be measuring the same type of disinhibition that might occur in social contexts. Moreover, performance in artificial testing environments does not always translate to the types of regulation difficulties that may occur in complex social settings. Consequently, in clinical settings, the assessment of emotional and behavioural dysregulation in people with TBI continues to rely largely upon the ratings of either the patient themselves, or someone who knows them. In view of these limitations, the aim of this project is to develop a new “Social Disinhibition Task” that is suitable to screen for social disinhibition deficits in clinical (as opposed to laboratory) settings.

What we are doing:

Currently in the pilot testing phase of development, the new social disinhibition task requires people with TBI to view scenes of complex social situations, and then utter the first few words that come to mind to describe a particular character. Part A of the task is a control task that does not contain any specific instruction to inhibit any inappropriate or negative responses about the character. Part B, on the other hand, requires the person with TBI to inhibit inappropriate or negative responses. The pilot trial will compare the performance of TBI participants to matched control participants. Adjustments to the measure will be made following the trial, and a retrial will be conducted if necessary.

What we will expect to find:

It is expected that this study will produce a brief 10-item measurement tool that neuropsychology clinicians can use to screen for social disinhibition deficits in TBI.
What the study is about:

Although estimates of the incidence of posttraumatic olfactory dysfunction have been found to exceed 50%, there has been little research into its functional implications. The objective of this study led by doctoral candidate Melanie Drummond was to describe the impact of olfactory impairment on daily activities and social participation from the perspective of adults who are living with the impairment.

What we did:

A qualitative research design based on a constructivist grounded theory approach was used and 5 participants with severe traumatic brain injury who reported post-injury changes in their olfactory function were interviewed. No participant had a pre-injury history of olfactory disturbances. The presence of olfactory disturbance was confirmed using the University of Pennsylvania Smell Identification Test (UPSIT).

What we found:

The themes that emerged demonstrated olfactory dysfunction has significant impact on a range of activities and social roles. The limitations identified by participants fell into seven categories including Eating and Enjoyment of Food, Food Preparation, Personal Safety, Personal Hygiene, Work, Leisure, and Relationships.

To read more about this study:

Conceptualising Self and Maintaining Social Connection following Severe Traumatic Brain Injury

Jacinta Douglas

What the study is about:
This qualitative project set out to gain some understanding of the ways in which adults who have sustained very severe traumatic brain injury develop and maintain a sense of self and social connection several years after injury.

What we did:
In-depth interviews were conducted with 16 men and 4 women who had sustained very severe injuries. At the time of their interviews their average age was 35 years and at least 5 years had elapsed since injury. They were all living in the community with family and or paid support. The interviews were transcribed and analysed within a constructivist Grounded Theory framework to identify themes and categories within their experiences.

What we found:
Three main themes emerged from the data. The first two themes captured the insider’s perspective on the process of conceptualising self, while the third theme described factors that helped to create and maintain a sense of connection between self and society. The factors identified formed a bridge between the self and society. They enabled the self to be situated in a unique social environment reflecting important social ties for the individual that assisted the dynamic construction of self and maintenance of wellbeing.

To read more about this study:
What the study is about:
People with TBI frequently experience communication breakdown. Everyday interactions are stressful and relatives, teachers, employers and friends often judge communication breakdown as one of the most problematic consequences of the injury. When we have difficulty communicating, we typically use communication-specific coping strategies. Productive strategies enhance communication while non-productive strategies do little to resolve problems. This Victorian Neurotrauma Initiative (now TAC) funded research completed preliminary evaluation of the efficacy of a new intervention, Communication-specific Coping Intervention (CommCope-I), which specifically targets coping in the context of communication breakdown.

What we did:
8 men and 5 women with severe TBI participated in the project. On average 7.6 years had elapsed since their injury. CommCope-I is a 6-week program that targets personally-relevant productive coping strategies identified collaboratively with the client. The project involved 3 phases: 1) Control/Pre-intervention Wait Phase (6 weeks), 2) Treatment Phase (6 weeks) and 3) Follow-up Phase (12 weeks).

What we found:
CommCope-I elicited statistically significant improvements in communication-specific coping, functional communication and stress that were maintained up to 3 months post treatment. These improvements were commensurate with moderate-large clinical effects. Positive changes in interpersonal communication were evident in clinician blind ratings and clients’ reports of their own functioning. Clients reported significant reduction in stress at the end of treatment and maintained at 1 and 3 months. Positive changes were also perceived by close others who interacted regularly with the clients. They reported significant increase in observed use of productive strategies following treatment and at 1 and 3 months.

Conclusions:
CommCope-I provides a promising means of reducing communication dysfunction and its negative consequences for people with TBI.
“There’s a lot of things that I just know I can’t influence”: The experiences of adults with severe TBI and their partners in making decisions about life after injury

Lucy Knox, Jacinta Douglas and Christine Bigby

What the study is about:

Being supported to make decisions about one’s own life is a central tenet of disability policy and an inalienable human right. Despite a significant body of literature documenting changes in decision making skills following severe TBI, little remains known about the experience of individuals with TBI and those around them in negotiating the process of making decisions after injury. This project which is part of a larger project led by doctoral candidate Lucy Knox seeks to build an understanding of the process of decision making for individuals after severe TBI who are in partner relationships.

What we did:

Data include sixteen semi-structured in-depth interviews with three individuals with severe TBI and their partners. In line with constructivist grounded theory methodology, data was analysed through a process of open and focussed coding, and identification of emergent categories.

What we found:

Several themes reflecting both the experiences of adults with severe TBI and their partners coalesced around understanding changes in decision making after injury, being recognised as an individual, and developing strategies to manage tensions in the decision making process. This study reveals the multifaceted nature of the process of decision making following brain injury. It provides insight into strategies to maximise decision making opportunities for individuals with TBI. Further, it highlights the complexities of providing support, requiring constant balance between the needs of the individual and the maintenance of positive family functioning.

To read more about this area:

Efficacy of Motivational Interviewing and Cognitive Behaviour Therapy for Anxiety and depression following Traumatic Brain Injury

J. Ponsford, M O'Donnell, N. Lee, M. Hsieh, C Furtado, A McKay, D. Wong

What the study is about:

There is a high incidence of psychiatric disorders following TBI, most commonly anxiety and depression. Due to this fact, there is a need for effective psychological treatments to improve psychosocial outcomes for this group. This NHMRC–funded randomised controlled trial is examining the efficacy of a cognitive behaviour therapy (CBT)-based treatment program adapted for a community sample with moderate-severe TBI. Motivational Interviewing (MI) is also being evaluated as a preparatory intervention to increase motivation to change and engagement in treatment.

What we did:

Adult participants are randomly assigned to one of three treatment conditions, (1) MI+CBT, (2) CBT only and (3) treatment as usual (control). Assessment includes a semi-structured clinical interview to determine psychiatric diagnoses; and measures of anxiety, depression, psychosocial functioning, coping style and cognitive functioning. The interventions are guided by manuals adapted for participants with TBI, with an emphasis on flexibility to tailor therapy to individual needs and cognitive difficulties.

What we found:

Preliminary results from individual cases in this ongoing study suggest potential benefit from the treatment program. A high comorbidity of depression and anxiety is also evident, highlighting the challenges in assessing and treating psychiatric disorders following TBI. The study results will inform clinical practice by providing evidence about relative effectiveness of interventions for individuals with TBI who suffer from anxiety and/or depression.

To read more about this study:

Cognitive Behaviour Therapy to Treat Fatigue and Sleep Disturbance after Traumatic Brain Injury

By Jennie Ponsford, Adam McKay, Dana Wong, Shantha Rajaratnam, Sylvia Nguyen

What the study is about:
Fatigue and sleep difficulties frequently occur after traumatic brain injury and can interfere significantly with everyday functioning and quality of life. Despite how common these symptoms are, there is presently no evidence-based treatment available. While the exact causes for fatigue is still unclear, it appears strongly related to sleep disturbance, pain and mood. Cognitive Behavioural Therapy (CBT) is a promising treatment and may be able to address the factors that maintain these symptoms. The aim of this study is to be the first controlled trial to evaluate whether CBT is an effective intervention for fatigue and insomnia after adult traumatic brain injury.

What we have done so far:
A manualized CBT treatment has been developed specifically for adult traumatic brain injury and pilot data has been collected. The next step is to complete a controlled trial comparing participants who receive therapy with those receiving treatment as usual. The two groups will be compared across three time points on measures of fatigue, sleep, mood, quality of life and self-efficacy in managing symptoms.

What we found so far:
Pilot participants reported improved sleep and mood. While fatigue symptoms remained fairly stable, its impact on physical functioning and daily activities decreased. Participants reported greater control over their symptoms and these gains were maintained over time. We expect these trends to continue in the controlled trial and for participants in therapy to report better outcomes relative to those not receiving treatment. Findings of this study may be used to inform future clinical services.

Efficacy of Melatonin for sleep disturbance following Traumatic Brain Injury

Ponsford, J.L., Rajaratnam, S., Grima, N.A.

What the study is about:
Sleep disturbances commonly occur following traumatic brain injury (TBI), with over 50% of people suffering from some form of sleep disorder. Presently, there is no evidence-based treatment for these complaints, despite their high prevalence. Recently published research suggests that reduced endogenous concentrations of Melatonin may explain the reported sleep disturbance in this population. Melatonin is involved in the circadian control of the sleep-wake cycle, with numerous studies demonstrating safety and efficacy of exogenous Melatonin for the treatment of insomnia. In light of these findings, the current study, funded by an NHMRC Project grant, examined the efficacy of exogenous Melatonin to alleviate sleep disturbance following TBI. If Melatonin therapy is successfully shown to improve sleep, this could substantially improve the quality of life in TBI patients.

What we will do:
Community dwelling TBI patients reporting sleep problems will be recruited in a 10-week randomized controlled trial. Participants will be administered melatonin and placebo for four weeks, respectively. Mood, general well-being, self-report and objective sleep measures will be assessed throughout the study.

What we found so far:
The current study aims to recruit 80 TBI participants, with the study actively recruiting.
What the study is about:
The elucidation of the long-term problems experienced by those who sustain traumatic brain injury owes much to the Longitudinal Head Injury Outcome Project, which has been conducted at Epworth Hospital (formerly Bethesda) since 1995.

What we did:
All patients admitted to Epworth Hospital with head injuries are routinely invited to attend a follow-up clinic at 1, 2, 3, 5, 10 and 20 years post-injury. They are interviewed by a rehabilitation physician and complete questionnaires documenting their level of mobility, functional independence, living situation, relationship status, vocational activities, neurological, cognitive, behavioural and emotional problems experienced and drug and alcohol use.

What we found:
This study has provided comprehensive information regarding the difficulties experienced by these individuals and their families over long periods of time after injury. Findings have been published in over 50 international peer-reviewed journal articles, and in over 100 national and international conference presentations. This is one of the largest and most comprehensive databases worldwide.

To read more about this study:

Light therapy for sleepiness and fatigue following traumatic brain injury
K. Sinclair, J. Ponsford, S. Rajaratnam, S. Lockley

What the study is about:
This novel study, funded by the Victorian Neurotrauma Initiative (now TAC), is the first randomised controlled trial of a non-pharmacological treatment for post-ABI sleepiness and fatigue. It builds on our existing work investigating the prevalence and nature of fatigue and sleepiness post-ABI, and demonstrating the efficacy of light to improve alertness in healthy volunteers. The primary aim of this study is to evaluate, in a randomized controlled trial, the effect of blue light therapy versus yellow light therapy and ‘treatment as usual’ on subjective daytime sleepiness and fatigue.

What we have done so far:
To date we have recruited 55 individuals with ABI and current reports of fatigue and/or excessive sleepiness during the day. Participants were randomly allocated to receive 4-weeks of daily treatment (45 minutes each morning) with either blue light therapy, yellow light therapy, or no light therapy. Assessments of subjective fatigue and daytime sleepiness, as well as secondary outcomes, were taken at baseline, during the 4-week intervention period, and 4 weeks after the end of the intervention period.

What we found so far:
Preliminary analysis indicates that blue light therapy may be effective in alleviating fatigue and daytime sleepiness following TBI and may offer a noninvasive, safe, and nonpharmacological alternative to current treatments. Recruitment for this project is currently ongoing.

To read more about this study:

Longitudinal Head Injury Outcome Study
J. Ponsford, J. Olver, M. Ponsford, M Carty, M. Downing, G. Spitz

What the study is about:
The elucidation of the long-term problems experienced by those who sustain traumatic brain injury owes much to the Longitudinal Head Injury Outcome Project, which has been conducted at Epworth Hospital (formerly Bethesda) since 1995.

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All patients admitted to Epworth Hospital with head injuries are routinely invited to attend a follow-up clinic at 1, 2, 3, 5, 10 and 20 years post-injury. They are interviewed by a rehabilitation physician and complete questionnaires documenting their level of mobility, functional independence, living situation, relationship status, vocational activities, neurological, cognitive, behavioural and emotional problems experienced and drug and alcohol use.

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This study has provided comprehensive information regarding the difficulties experienced by these individuals and their families over long periods of time after injury. Findings have been published in over 50 international peer-reviewed journal articles, and in over 100 national and international conference presentations. This is one of the largest and most comprehensive databases worldwide.

To read more about this study:
Psychiatric disorders following traumatic brain injury
J. Ponsford, K. R. Gould, L. Johnston, Y. Alway, A. McKay

What the study is about:
Psychiatric disorders are common following traumatic brain injury (TBI), exacerbate disability and have a negative impact on rehabilitation. The aim of this project is to prospectively examine the frequency, course, and predictors of psychiatric disorders over the first five years following TBI. Specifically, the pre-injury injury-related and post-injury factors associated with the development, course and resolution of psychiatric disorders will be examined. Further, as the impact of a TBI extends beyond the injured individual, a secondary aim is to explore the influence of family dynamics on both patient and family adjustment following TBI.

What we are doing:
To date 252 participants with predominately moderate to severe TBI and their nominated family members have been recruited. Participants with TBI are being invited to complete psychiatric interviews and questionnaires examining various aspects of psychological adjustment soon after their injury and again at 3, 6 and 12 months and 2, 3, 4 and 5 years post-injury. Family members complete three interviews over the first 5 year post-injury examining their own and the injured individual’s adjustment and the relational dynamics between them.

What we found so far:
Psychiatric disorders, particularly depressive and anxiety disorders are significant and persistent problems after TBI. Individuals with a psychiatric history prior to their head injury have a particularly high risk of ongoing psychiatric difficulties post-injury.
What the study was about:

Speech and language impairments are known disabling sequelae following brain injury. Yet little is understood regarding the neural bases of these disorders nor their impact on long-term prognosis for communication.

What we did:

Here we investigated speech impairment (dysarthria) and language function in 32 young people who sustained traumatic brain injury in childhood (17 with dysarthria, 15 without), and 17 healthy age-matched controls. MRI data was collected and analysed for diffusion metrics (using diffusion-weighted tractography) within the arcuate fasciculus, the uncinate fasciculus, and the corpus callosum.

What we found:

Only participants with dysarthria also had co-morbid language difficulties, affecting sentence formulation and semantic association. Across the brain injury group as a whole, sentence formulation was best predicted by combined corpus callosum and left arcuate volumes, suggesting this "dual blow" seriously reduces the potential for functional reorganisation. It appears that the co-morbidity of dysarthria and language deficits after TBI arise as a consequence of multiple tract damage.

To read more about this study:


New NHMRC Project
Tamara Ownsworth, Jenny Fleming, Robyn Tate & Amanda Lane-Browne

Self-awareness and error self-regulation are key predictors of whether people return to work and live independently after TBI. Although metacognitive training has been found to improve self-awareness and self-regulation deficits after severe TBI, people’s capacity to generalise skills beyond training has rarely been examined. Poor skills generalisation poses one of the biggest barriers to successful outcomes of rehabilitation because most interventions are delivered in a specific context and are cost and time limited. This project seeks to address the following key questions:

• Is making errors actually beneficial in the learning process or is it better to avoid errors when training skills in rehabilitation? Specifically, does an error-based learning approach promote greater self-awareness and skills generalisation than errorless learning?
• Is improvement in self-awareness and skills generalisation after error-based learning related to better long-term social outcomes (e.g., work, independence and relationships)?

The protocol for this study was published in Trials in 2013. This RCT commenced in 2013 in Brisbane with recruitment underway in July 2013. To date, 20 people with severe TBI have been screened for eligibility, 15 have commenced the study and 10 have completed the intervention. We are in the process of extending the study to Sydney and aim to commence recruitment in April 2014.

To read more about this study:


Dr. Tamara Ownsworth

Tamara Ownsworth is a clinical neuropsychologist who is internationally recognised for her research on self-awareness and self-regulation after brain injury. She is a representative of the World Federation for NeuroRehabilitation’s Special Interest Group in Neuropsychological Rehabilitation, the incoming President of ASSBI and on the Editorial Boards of Neuropsych Rehabilitation and Brain Impairment.
What the study is about:

Traumatic brain injury (TBI) may impact on an individual’s ability to drive a vehicle safely. TBI may result in physical, behavioural and cognitive deficits which may present as difficulties operating the vehicle and attending to strategic and tactical driving tasks. In the TBI population, return to driving has been identified as the greatest concern above any other functional limitation. Driving is a key to community reintegration which is a core aim of brain injury rehabilitation. In order to achieve medical clearance to drive, many people with TBI are required to undertake an occupational therapy on-road driving assessment. An outcome of this assessment may be a recommendation for a driving remediation program which involves lessons with a trained instructor to learn strategies to overcome problems identified in the assessment. This study aims to examine the effectiveness of driving remediation programs for people with moderate to severe TBI in terms of improving driving fitness and other psychosocial outcomes.

What we are doing:

We are conducting pilot study with ten participants with ABI who have been referred for a driving remediation program to obtain medical clearance to return to driving. Five of the participants will receive a 6-8 week driving remediation program prescribed by a driver-assessment trained occupational therapist and delivered by a driving instructor. The other five participants will be waitlisted and receive no intervention during this time. After 8 weeks all participants will be reassessed in an on-road driving assessment by a blind assessor. They will also complete other measures assessing their level of self-efficacy for driving, self-awareness, psychosocial integration and emotional status. Following this assessment the waitlisted participants will receive the driving remediation program and a reassessment. Six months later all participants will receive a follow-up on-road driving assessment and be reassessed on all measures to determine if the gains from driving remediation have been maintained.

We are also interested in improving the processes used in the driving remediation program. To do this, participants will be interviewed each week while they are receiving the program, to find out about their experiences and to seek recommendations for modifying the program to better meet their needs.

Evaluating the acquisition and maintenance of medical fitness to drive following acquired brain injury through individualised, on-road driving remediation

By Jennifer Fleming, Louise Bassingthwaighe, Janelle Griffin, Sarah Davies

Dr. Jennifer Fleming
Jennifer Fleming conducts a program of research on psychosocial functioning and cognitive rehabilitation following TBI in collaboration with Griffith University. She holds a conjoint research appointment in occupational therapy with the University of Queensland and Princess Alexandra Hospital, and is Associate Editor of Brain Impairment.
Supporting family and other relationships of people with brain injuries while they are in hospital

By Pim Kuipers, Emmah Doig, Jenny Fleming, Melissa Kendall, Ben Turner, Marion Mitchell

What the study was about:

During hospitalisation after brain injury we focus a lot on the patient, but we also know that family and surrounding others are a crucial resource and providing support to keep family members and surrounding others strong is critical. This study was a preliminary stage of an action research project which aimed to explore family engagement during hospitalization after acquired brain injury and how service providers can support family members and close friends in their vital role during hospitalization and rehabilitation.

What we did:

We conducted in-depth interviews with 13 people, 6 people who had experienced hospitalisation and rehabilitation after brain injury and 7 family members. We asked them about their experience of hospitalisation and the influence of staff, hospital environments and routines on family relationships. Qualitative data analysis involved two complete and independent interpretations of the data to minimise interpretation bias whereby two researchers separately listened to all interviews, took notes about key points, stopped to transcribe verbatim quotes which illustrated key themes, and later met to compare and discuss interview themes.

What we found:

Interviews confirmed that families need good information, practical support, and emotional support, as well as support from others who are or have been in similar circumstances. Interestingly however, the study also found that all of the interviewed family members spoke about the importance of “hope”. The family members told the researchers that maintaining and building a strong sense of hope was crucial throughout the long period of treatment, hospitalisation and rehabilitation and that hope was important for their own coping and adjustment, but also for their loved one’s progress. This presents an interesting challenge to hospital staff. What are the best ways of building hope for patients and family members? How do we foster hope in some very difficult circumstances? How do we make sure we don’t build false hope when there is a poor prognosis? Can false hope be destructive? These are questions the research team hopes to explore in future projects.
Dr Elizabeth Beadle
Griffith University

**Research topic:**
Identity change and rehabilitation after traumatic brain injury

Lizzie is a clinical and neuropsychologist who is currently completing her PhD and assisting coordinating an NHMRC project. She commenced her PhD at Griffith University in February 2013 and is interested in identity after a moderate to severe TBI in adulthood. Specifically, she is interested in if/how identity changes after TBI, the neurocognitive and psychosocial mechanisms related to change, and how this influences psychological adjustment.

Her supervisors are A/Prof Tamara Ownsworth, Prof David Shum (Griffith University) and A/Prof Jennifer Fleming (PA hospital/UQ).

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Owen Lloyd
Griffith University

**Research topic:**
Self-awareness deficits following paediatric TBI: natural recovery and relationship to outcome

Owen is doing a part-time PhD at Griffith University and is the Neuropsychology Clinical Leader at the Queensland Paediatric Rehabilitation Service at the Royal Children's Hospital in Brisbane. Owen commenced his PhD in March 2013, and is investigating the natural course of recovery of awareness of deficits, and the impact of self-awareness on psychosocial outcomes after paediatric TBI.

To date, Owen has conducted a systematic review of awareness deficits following paediatric TBI and is preparing a manuscript for publication.

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Elizabeth Pagan
Griffith University

**Research topic:** Moving Ahead Clinician Survey

Liz commenced her Masters in clinical psychology at Griffith University in February 2013. To support one of the key aims of the CRE, her research seeks to investigate clinicians’ perceptions of the barriers to providing effective neurorehabilitation for people with TBI and their professional development preferences.

Liz conducted a survey of multidisciplinary professionals involved in psychosocial rehabilitation after TBI at the 2013 ASSBI conference. A mail out to members of various national and international brain injury networks was also conducted and she received a total of 440 surveys (approximately 350 from Australia). Liz is currently on maternity leave and is starting to analyse the survey data with the goal of submitting her Masters thesis by December 2014.
Melinda Hickey
University of Wollongong

Melinda Hickey is a PhD candidate at the University of Wollongong. She is currently investigating the feasibility and efficacy of a neurocognitive training (combined cognitive and neurofeedback training) program that aims to improve state control (attention and relaxation), impulse control and working memory in adults with a traumatic brain injury. She is interested in the cognitive, electrophysiological and behavioural outcomes of this training program.

Dr Christina Furtado
Monash University

Christina Furtado has recently completed a Doctorate in Psychology (Clinical Neuropsychology) at Monash University. Her thesis focused on volumetric and neurocognitive changes during a major depressive episode and following symptomatic recovery. She is now currently working with Professor Jennie Ponsford in rehabilitation research at the Monash Epworth Rehabilitation Research Centre and is the project manager of the NHMRC funded psychological intervention study using adapted motivational interviewing and cognitive behavioural therapy for depression and anxiety following traumatic brain injury.

Dr Kelly Sinclair
Monash University

Kelly Sinclair is a Research Fellow at Monash University in the Monash Epworth Rehabilitation Research Centre (MERRC). She completed a Doctor of Psychology (Clinical Neuropsychology) at Monash University in 2012, focusing on the assessment of fatigue and sleep disturbance following Traumatic Brain Injury and examining the use of light therapy to reduce these symptoms following injury. Kelly continues to work on projects across the research centre examining fatigue and sleep complaints following Acquired Brain Injury.
Dr Adam McKay
Monash University

Dr Adam McKay is a Lecturer in the School of Psychology and Psychiatry at Monash University and Senior Clinical Neuropsychologist at Epworth Healthcare. Adam is involved with multiple research projects exploring outcomes after traumatic brain injury with a particular interest in evaluating treatments designed to improve the psychological, behavioural, cognitive and functional changes after TBI.

Dr Dana Wong
Monash University

Dr Dana Wong is a Lecturer in the School of Psychology and Psychiatry at Monash University and a Clinical Neuropsychologist in private practice. Dana’s research and clinical interests lie in the assessment and treatment of emotional and cognitive difficulties following traumatic brain injury (TBI). Current projects in which she is involved include the use of cognitive behaviour therapy (CBT) to treat fatigue following TBI, and the use of motivational interviewing and CBT to treat anxiety and depression in people with TBI.

Sylvia Nguyen
Monash University

Sylvia Nguyen is a registered Clinical Psychologist and Doctor of Psychology (Clinical Neuropsychology) Candidate at Monash University. She is conducting a randomized controlled trial to investigate the effectiveness of Cognitive Behaviour Therapy in treating fatigue and sleep disturbance after TBI. This project is under the supervision of Prof Jennie Ponsford, Prof Shantha Rajaratnam, Dr Adam McKay and Dr Dana Wong. She is currently working as a research assistant at the Monash-Epworth Rehabilitation Research Centre.

Nicholas Behm
University of Sydney

Nicholas Behm is a current PhD candidate at City University, London UK. He is a qualified speech pathologist with over 10 years experience in working with people with brain injury. He has just completed his research masters degree through The University of Sydney on communication partner training for paid carers of people with TBI. His PhD is on communication and quality of life outcomes for people with ABI following project-based therapy. This form of therapy focuses on people with ABI working on meaningful and motivating "projects". The study is taking place in the UK under the supervision of Dr Madeline Cruice, Prof Jane Marshall and Prof Leanne Togher.
**Dr Kimberley Docking**  
**University of Sydney**

Dr Kimberley Docking is a Research Fellow with the Moving Ahead: NHMRC Centre of Research Excellence in Brain Recovery, joining the team under the leadership of Professor Leanne Togher at the University of Sydney. Kimberley is also a Lecturer in Speech Pathology in the Faculty of Health Sciences at the University of Sydney. Her research activity to date has made contributions to the study of paediatric acquired language disorders in populations of children who are recovering from childhood brain tumours and traumatic brain injury, in identifying the potential for long-term communication deficits and recovery patterns in these populations.

**Tennille Thomasz**  
**University of Sydney**

Part-time Masters student called Tennille Thomasz has enrolled at The University of Sydney to commence work on a project investigating the issue of friendships following TBI. Tennille Thomasz is a Senior Speech Pathologist who works at the Brain Injury Unit at Bathurst Base Hospital. Tennille’s research will provide the foundations for our planned RCT with friends of people with TBI. Tennille has worked on her literature review, methodology and is now submitting her ethics application.

Tennille’s supervisors are Prof. Leanne Togher, Dr Emma Power and A/Prof. Jacinta Douglas.

**Amanda Lane-Brown**  
**University of Sydney**

Amanda Lane-Brown is a postdoctoral research fellow with the NHMRC Centre of Research Excellence 'Moving Ahead' / University of Sydney and a Rehabilitation Psychologist at the Brain Injury Rehabilitation Unit, Liverpool Hospital. Amanda's research interests include deficits of drive following brain injury, awareness of deficits, executive dysfunction, cognitive rehabilitation, adjustment to disability, dual diagnosis of traumatic brain and spinal injury, and evidence-based clinical practice.

Amanda’s mentor is Prof. Robyn Tate.

**Elise Elbourn**  
**University of Sydney**

Elise Bogart is a doctoral candidate at the University of Sydney. Her current research interests are investigating the recovery of spoken discourse following severe traumatic brain injury.
**Matthew Frith**  
*University of Sydney*

Matthew Frith is a qualified speech language pathologist with 10 years of experience in the field. He is currently Research Higher Degree candidate in the Faculty of Health Sciences at the University of Sydney examining the efficacy of standardised language assessments for children with acquired cognitive communication impairments after a traumatic brain injury. Frith is also service manager with Kaleidoscope’s Paediatric Brain Injury Rehabilitation Team in Newcastle and has facilitated a number of research projects within the team.

**Joanne Steel**  
*University of Newcastle*

Joanne Steel is undertaking her PhD research on cognitive-communication assessment during post-traumatic amnesia (PTA) and the early recovery period after severe TBI. Stage 1 of the research investigated speech pathology practice and clinical reasoning with cognitive-communication assessment during PTA. Stage 2 examined the cognitive-communication recovery of patients during PTA and at three months after PTA emergence. The research is supervised by Professor Alison Ferguson and Dr Elizabeth Spencer at the University of Newcastle, and Professor Leanne Togher at the University of Sydney.

**Dr Belinda Kenny**  
*University of Sydney*

Belinda Kenny is working on a project that will trace communication recovery in people with severe TBI over a two year period following their injury. The study will be conducted by an international research team, led by Professor Leanne Togher from The University of Sydney, in collaboration with three major Brain Injury Rehabilitation Units in Sydney, NSW. The aims of the project are to determine predictive factors underlying recovery of communication deficits after TBI and identify the optimal period of recovery for communication skills.

**Alannah Bailey**  
*La Trobe University*

**Research topic:**  
Investigating the evolution and potential for the maintenance of friendships across time following severe TBI.

Alanna Bailey is a newly enrolled PhD student La Trobe University. Alanna’s project will be focusing on friendships following TBI, supervised by Associate Professor Jacinta Douglas. Alanna completed her Masters of Speech Pathology at La Trobe University in 2005. She is currently working as a speech pathologist at Epworth Rehabilitation, Camberwell Campus in Melbourne. She previously worked in the TBI Unit at Royal Rehabilitation Centre in Sydney with TBI clients across both inpatient and community settings.

Her supervisors are A/Professor Jacinta Douglas and Prof Leanne Togher.
Dr Emmah Doig  
University of Queensland

Emmah completed her PhD in 2010 and has been undertaking research since her commencement as a part-time post-doctoral research fellow with the NHMRC Moving Ahead CRE/University of Queensland in July 2012. Emmah’s research has involved design and implementation of a series of single case experimental designs to evaluate a novel, intensive, occupation-based, metacognitive intervention (completed with 2 people with TBI to date) designed to improve performance in meaningful occupations and online awareness in conjunction with A/Professors Jenny Fleming and Tamara Ownsworth. Emmah has also been involved with a project in conjunction with A/Professors Pim Kuipers, Jenny Fleming and Melissa Kendall and Drs Ben Turner and Marion Mitchell which used qualitative interviews with people with brain injury and their family members to explore their experience of hospitalization for rehabilitation after brain injury, with the aim of informing how service providers can support family members and close friends during hospitalisation and rehabilitation. Emmah has also been co-ordinating a mixed methods study exploring goal planning with people with brain injury undergoing outpatient multidisciplinary rehabilitation, which commenced data collection in 2013. This project is being conducted in partnership with clinicians at the Princess Alexandra Hospital Brain Injury Rehabilitation Unit along with A/Professor Jenny Fleming and Dr Petrea Cornwell at the Griffith University.

Sarah Prescott  
University of Queensland

Sarah is an experienced Occupational Therapist who was awarded an APA scholarship in September 2013 and commenced her PhD at the University of Queensland in February 2014. Sarah’s thesis will use quantitative and qualitative research methods to explore the goal planning process with people with brain injury in outpatient rehabilitation settings. Sarah has commenced a scoping review of the literature and data collection is currently underway. This study is capturing the goal planning process by analysing transcriptions of audiotaped goal planning sessions between therapists and people with brain injury. A range of other therapist, client and contextual factors are also being measured to explore the relationship between client participation in goal planning, contextual factors and outcomes.

Sarah’s supervisors are A/Professor Jenny Fleming and Dr Emmah Doig

Freyr Patterson  
University of Queensland

Freyr is an experienced Occupational Therapist who commenced her PhD at the University of Queensland in 2013. Freyr’s PhD will explore the use of therapy groups in inpatient brain injury rehabilitation. Freyr has recently completed a scoping review of the literature to investigate the use of group therapy interventions in TBI rehabilitation. The findings of this review supported the need for further research into the efficacy of groups as well as research which includes patient and clinician perspectives about groups. Freyr has commenced data collection for a research project which will explore group processes and patient and clinician perspectives about their experience of involvement in a group therapy program at the Princess Alexandra Hospital Brain Injury Rehabilitation Unit using quantitative and qualitative methods (video-recording of group sessions, focus groups, interviews).

Freyr’s supervisors are A/Professor Jenny Fleming and Dr Emmah Doig
Dr Frank Muscara  
**Murdoch Children Research Institute**

Frank has been involved in the development and piloting of a new measure to assess social outcomes and functioning in children and adolescents with traumatic brain injury. The measure has already been tested in a non-clinical population, and is now being piloted in a clinical sample of children and adolescents with acquired brain injury. Frank is also coordinating a project investigating parent functioning, and its impact on child psychosocial outcomes and development, following acquired brain injury in childhood. Finally, Frank has been supervising Stefanie Rosema, PhD student, on her project investigating long-term psychosocial outcomes following traumatic brain injury in children.

Dr Fiona Lewis  
**University of Queensland**

Dr Fiona Lewis has a speech pathology background and is part of a team of investigators based at the University of Queensland. Under the leadership of Professor Bruce Murdoch, the team is applying a combination of behavioural, neurophysiological and neuroimaging techniques in order to predict language functioning following traumatic brain injury (TBI), with the aim of enhancing rehabilitation outcomes in the TBI population.

Nicholas Ryan  
**Murdoch Children Research Institute**

Nicholas Ryan is a PhD/Master of Psychology (Clinical Neuropsychology) Candidate at the University of Melbourne. In 2012 Nicholas completed his Honours project that examined predictors of emotion perception, and its relationship to social communication and externalizing behaviours in young adult survivors of paediatric TBI. Following on from this work, his PhD aims to investigate the neural bases of outcome and recovery of Theory of Mind in children and adolescents with TBI. He is supervised by Professor Vicki Anderson and Associate Professor Cathy Catroppa at the Murdoch Childrens Research Institute.
Stefanie Rosema  
**Murdoch Children Research Institute**

Stefanie Rosema is a PhD student and research assistant at the Murdoch Childrens Research Institute. She is particularly interested in psychosocial outcomes after childhood traumatic brain injury and is currently setting up an intervention program for children with social and psychological difficulties. She is also involved as a research assistant in improving attention and memory in children with a brain injury and in training to analyse (f)MRI data.

Dr Cheryl Soo  
**Murdoch Children Research Institute**

Cheryl Soo is a research fellow at the Murdoch Children’s Research Institute and has worked on research projects on the psychosocial outcome of children and adults with TBI for the past 10 years. She is currently lead investigator on a multi-centre RCT of cognitive behavioural therapy for managing anxiety in adolescents with brain injury funded by the NHMRC.

Dr Heather Francis  
**University of New South Wales**

Dr Heather Francis is a part-time research fellow working at the University of New South Wales under the supervision of Skye McDonald. She completed a Combined PhD/Master of Clinical Neuropsychology in 2013 and her research and clinical interests lie in assessment and intervention of cognitive and emotional impairments following traumatic brain injury. She is also involved in coordination of CRE-related activities and projects, such as the outcome measures project.

Dr Jacqueline Rushby  
**University of New South Wales**

Jacqueline Rushby was awarded a NHMRC four year research fellowship, to investigate psychophysiological indices of recovery after severe Traumatic Brain Injury (TBI). Her research aims to examine psychophysiological processes underpinning arousal and activation, in order to inform our understanding about how and why arousal to emotional events is dysregulated after severe brain injury.
Cynthia Honan is a postdoctoral research fellow working under the supervision of Skye McDonald, UNSW. Cynthia plays a key role in the coordination of CRE-related activities and projects. One such project involves the development common outcome measures and protocols for use across a variety of rehabilitation research projects within the CRE. Cynthia also has a specific interest in the development of valid and reliable measures to assess social cognition in clinical practice. Measures currently being developed include the Social Disinhibition task, a shortened version of the TASIT, a cognitive and emotional empathy scale (based on two current measures), and the Social Cognition Screening Battery for traumatic brain injury. A recently completed project involved examining the contribution of executive function to theory of mind and speech comprehension deficits following TBI.

Hannah Rosenberg
University of New South Wales

Hannah Rosenberg is a PhD/Master of Psychology (Clinical) Candidate at UNSW. Her research area involves the study of emotion perception deficits in individuals with traumatic brain injury (TBI) and Parkinson’s Disease. She is especially interested in the differences between recognition of negative and positive facial expressions and how this recognition improves as a function of emotion intensity.

Julia Plumb
University of New South Wales

Julia is a PhD candidate working under the supervision of Professor Skye McDonald and Dr Jacqueline Rushby. Her current research direction involves the role of the mirror neuron system in facial mimicry and affective resonance/empathy in people with Autism Spectrum Disorder (ASD) or Traumatic Brain Injury (TBI). Julia’s other research interests include schizophrenia, neuroplasticity, and the neurobiology of drug addiction.

Katie Osborne-Crowley
University of New South Wales

Katie Osborne-Crowley is currently in her second year of her PhD studies. Her research interests include disorders of motivation and disorders of control following traumatic brain injury.

Francesca Froreich
University of New South Wales

Francesca works as an Administrative Assistant supporting the day to day management of the CRE. Having recently commenced her PhD studies at UNSW, her research interests involve school-based bullying and disordered eating.
**List of Publications**


- Fisher, A.C., Rushby, J.A., McDonald, S., Parks, N. & Piguet, O. Neurophysiological correlates of dysregulated emotional arousal in severe traumatic brain injury (submitted)


- Kelly, M., McDonald, S., Kellet, D. Development of a Novel Task for Investigating Decision Making in a Social Context Following Traumatic Brain Injury (Submitted)


• Sim, P., Power, E. & Togher, L. (2013). Describing conversations between individuals with traumatic brain injury (TBI) and communication partners following communication partner training: using exchange structure analysis, Brain Injury, 27, 6, 717-742, doi:10.3109/02699052.2013.775485


• Willmott, C., Ponsford, J., Downing, M., Carty, M. (in press). Frequency and Quality of Return to Study following Traumatic Brain Injury, Journal of Head Trauma Rehabilitation, Accepted 11 September, 2013

• Willmott, C., Ponsford, J., Downing, M., Carty, M. (in press). Frequency and Quality of Return to Study following Traumatic Brain Injury, Journal of Head Trauma Rehabilitation, Accepted 11 September, 2013


Clinician Advisory Board

If you are interested in being a member of our Clinicians Advisory Board – providing input into research directions and implementations of the CRE, please contact us at movingahead@unsw.edu.au.