STUDY PROTOCOL

PROTOCOL TITLE:

Cognitive rehabilitation using neurofeedback with brain-computer interface – CONNECT: A prospective randomised controlled trial

PROTOCOL VERSION: 6
PROTOCOL DATE: 08 June 2026

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PROTOCOL SIGNATURE PAGE

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Protocol Version 6
Protocol Date: 08 June 2026

Collaborator:
Prof. Vinod A Prasad, Director of Research, Infocomm Technology, Singapore Institute of Technology

Study Site(s): KKH

Declaration of Investigator

I confirm that I have read the above-mentioned protocol and its attachments. I agree to conduct the described study in compliance with all stipulations of the protocol, regulations and ICH E6 Guideline for Good Clinical Practice (GCP).

Principal Investigator:	_____Teo Jia Hui_____
Title:	_____Dr_____
Principal Investigator Signature:	
Date:	_____08 June 2026_____

Signed copies of this signature page are stored in the study file and in the respective study site's investigator file.

1. BACKGROUND AND RATIONALE

Children with acquired brain injuries have physical and cognitive impairments. However, cognitive impairment post brain injury is an unmet need, mostly due to lack of physician recommendation, lack of provision by school or lack of financial ability (1,2). Neurocognitive impairments post acquired brain injury occurs due to disruption to neurotransmitters and neural circuits during the injury. These deficits in attention, memory, executive functioning are present in children post traumatic brain injury (3), in at least 22% of children post encephalitis (4), post stroke (5). Poorer outcomes were also reported in patients who suffered the injury at less than 1 year of age or over 10 years of age (5).

Event-related potentials (ERPs) and its components have been studied to evaluate cognitive deficits post traumatic brain injury. (6) These are only performed in adults post acquired brain injury.

Brain-computer interface (BCI) training with neurofeedback has been studied in children with attention deficit/hyperactivity disorder. (7,8). However, there has been no available literature to evaluate this in the brain injured paediatric population.

In KKH, there are about 100 cases of children with newly acquired brain injuries yearly. Due to resource constraints of having only 1 neuropsychologist, not all children will undergo a neuropsychological assessment and cognitive rehabilitation options remain scarce.

This project aims to understand further the cognitive impairments of patients with acquired brain injury more objectively. This will lay the foundations to quantify the deficits in acquired brain injury and permit development of meaningful interventions in cognition in acquired brain injury.

2. HYPOTHESIS AND OBJECTIVES

We aim to obtain objective markers of cognitive impairment with the use of EEG technology. We also aim to development a structured cognitive rehabilitation programme with the use of brain-computer interface with neurofeedback.

We hypothesise that the use of EEG technology is able to detect patients with cognitive impairments earlier post acquired brain injury. The use of brain computer interface with neurofeedback is able to provide a safe and effective cognitive rehabilitation therapy to these patients.

3. EXPECTED RIKS AND BENEFITS

Participants may not be able to complete the cognitive rehabilitation session due to headaches or loss of concentration. However, the development of cognitive rehabilitation based on objective markers of brain activity will fill a treatment gap in current clinical practice, as well as create the ability to administer cognitive rehabilitation through harnessing of digital medicine. This will enable cognitive therapy to be offered in the hospital and home setting, with the promise to improve cognitive outcomes of these patients and alleviate caregiver burden, help return to school and eventually the contribution of these children to society.

4. STUDY POPULATION

4.1. List the number and nature of subjects to be enrolled.

We aim to recruit a total of 71 patients in our study population.

At least 21 patients (aged 7 to 21 years old on recruitment) without history of any brain injury or epilepsy, undergoing EEG testing for syncope, headaches and other non-epileptic and non-brain injury causes will be recruited to the Normative Data Cohort.

50 patients with acquired brain injury according to the inclusion and exclusion criteria listed below will be recruited into the Main Cohort. Assuming a pooled standard deviation of 4 units, the study would require a sample size of 21 for each group to achieve a power of 80% and a level of significance of 5% for detecting true difference in means between the test and reference groups of 3.5 units, allowing for drop out rate of 20%. These values were taken from a paper by C.G. Lim et al that looked at the use of BCI-NFT for children with ADHD (C.G.Lim, 2019). It reported a mean reduction of 3.5 (SD 3.97) in the inattentive scores of the treatment group with BCI-NFT. As such, we aim to recruit 25 patients in each study group.

4.2. Criteria for Recruitment and Recruitment Process

The eligible participants will be recruited from the families who receive services and/or medical follow-up at KKH. Information of the study and Consent Form will be provided to the families who show interest in the study.

4.3. Inclusion Criteria

Normative data cohort
Patients with no history of epilepsy aged 7-21 years old on recruitment.

Main cohort
Patients post acquired brain injury such as post encephalitis, stroke, traumatic brain injury, brain tumour or epilepsy; aged 7 to 21 years old will be included. Their physician-in-charge must also approve their participation in the study.

4.4. Exclusion Criteria

Normative data cohort
Patients post acquired Brain Injury will be excluded from the normative data cohort.

Main cohort
Patients with a history of photosensitive seizures, diagnosis of intellectual disability or other degenerative brain diseases, and psychotic symptoms will be excluded. Patients on methylphenidate or any medications for pre-existing ADHD, patients in vegetative state, or unable to cooperate with neuropsychological assessments of cognitive function, premorbid diagnosis of ADHD, ADD, Autism spectrum disorder will be excluded.

5. STUDY DESIGN AND PROCEDURES/METHODOLOGY

5.1 Study design

The design of the study is a prospective randomised crossover trial. Patients from the Main Cohort will be randomised into either the intervention or waitlist group. Randomisation will be done by a computer-generated sequence. The study coordinator will obtain the group allocation via an opaque sealed envelope. Blinding of the participants, caregivers will not be possible. However, the outcome assessors (the PI and co-PI, and the neuropsychologist) will be blinded to allocation. The BCI-NFT session will be conducted in KKH at a designated outpatient area or in a quiet room at the participant home. Each session will last 30-60 mins.

5.2 Screening visits and procedures

All KKH patients known to neurology or neurorehabilitation service will be screened according to the inclusion and exclusion criteria stated in the preceding sections 4.3 and 4.4 by the doctors in the clinic. Consent will be taken by any delegated study team member.

5.2.1 Study visits and procedures

5.2.1.1 Study procedures

Normative data cohort

Participants will only need to undergo 1 session of EEG recordings at rest and with interaction with a 3D game to provide normative data. Only basic demographic data will be collected for Normative Data Cohort (Age, Gender).

Main cohort

1. Cognitive evaluation

This is conducted by a trained neuropsychologist. The assessment tools for cognitive evaluation are selected based on the anticipated problems and are not the same for all patients, depending on the patient's functional status. These include: Behaviour Rating of Executive Function (parent and teacher), Child Behaviour Checklist (parent and teacher), Conners 3 (parent and teacher), Children's Memory Scale – selected subtest, Delis-Kaplan Executive Function system – selected subtests, Peabody Picture Vocabulary Test Fourth Edition, Rey Auditory Verbal Learning Test, Rey Complex Figure Test, Spatial Learning Test, Trail Making Test, Test of Everyday Attention for Children, Verbal Fluency, Wechsler Intelligence Scale for Children, Fifth Edition, Wechsler Individual Achievement Test, Third Edition – selected subtests. Cognitive evaluation conducted within 24 months of patient recruitment will be included.

2. BASC-3

A cognitive screen using the Behaviour Assessment System for Children (BASC)-3 will be used.(9) There are teacher-report forms (TRF) or parents-report forms (PRF), with forms catered to the following age groups: preschool (ages 2-5), child (ages 6-11) and adolescent (12-21 years old). BASC-3 uses a multidimensional approach for conducting a comprehensive assessment of emotions and behaviour, adaptive skills, and screens for attention issues, aggression, anxiety, conduct problems, learning problems, adaptability, social skills, executive functioning, anger control. Composite scores are tabulated and provided as percentile in the individual category. The

forms can be completed within 15 minutes. By gathering the information from various perspectives, a more complete and balanced picture of each patient is obtained.

3. Brain Computer Interfaced-Neurofeedback (BCI-NFT) sessions

Enrolled participants will have their levels of attention, selective attention, relaxation and working memory quantified using performance metrics derived from the electroencephalograph (EEG). During these sessions, the participants are required to play a battery of neurofeedback computer games, while wearing an EEG headset. The study team member will assist with placing the wireless EEG on participant's head. Participants are required to complete 2 trials of games in each session. A 10-minute break will be incorporated between the two trials. A light snack is allowed during the break, however food or beverage containing stimulant (e.g., caffeine) is not allowed.

Each participant in the main cohort will be required to complete 12 sessions over an 10-week period. The interval between sessions will be at least 4 calendar days apart. In cases where the participant is unwell or unable to attend a scheduled session, rescheduling is permitted to ensure that all 12 sessions are completed within the 10-week period.

Sessions can be conducted at hospital setting or at participant's home setting. All equipment and personnel conducing the sessions is similar regardless of the study being conducted at the hospital setting or at participant's home. Similarly, the sessions will be conducted in a designated single room at home that is free from distractions.

5.2.1.2 Study Visit Schedule (Main cohort)

Visit 1 (week 0):

Written informed consent will be obtained from participants and legal representatives. BASC-3 forms (parents / teacher report) will be given to parents for self-administration. Participants will be randomised 1:1 into Intervention Group or Waitlist-Control Group.

Visit 2 (within 7 calendar days from Visit 1):

Participant will undergo cognitive evaluation by a neuropsychologist. This visit may be omitted if any assessment has been done up to 24 months prior to date of consent.

The visit schedule from Visit 3 to Visit 16 will differ between the two randomization group allocations.

Intervention Group (n=25)

Visit 3 (week 1) to 14 (week 10):

Participant will undergo BCI-based NFT sessions for each visit. Visit 3 to Visit 14 should be completed within a time period of 10 weeks.

Visit 15 (Within 10 calendar days from Visit 14):

BASC-3 forms (parents / teacher report) will be given to parents for self-administration.

Visit 16 (week 20):

Participant will undergo cognitive evaluation by a neuropsychologist. BASC-3 forms will be given to parents for self-administration. Participants will be reimbursed with SGD150 in cash.

Waitlist-Control Group (n=25)

Visit 3 (week 10):
BASC-3 forms (parents / teacher report) will be given to parents for self-administration.

Visit 4 (week 11) – 15 (week 20):
Participant will undergo BCI-based NFT sessions for each visit. Visit 4 to Visit 15 should be completed within a time period of 10 weeks.

Visit 16 (week 20):
Participant will undergo cognitive evaluation by a neuropsychologist. BASC-3 forms will be given to parents for self-administration. Participants will be reimbursed with SGD150 in cash.

During the study period, all patients will receive the current cognitive rehabilitation therapy provided by neuropsychologist and/or occupational therapist as this is the current standard of care.

5.3 Brain computer interface-neurofeedback (BCI-NFT) model

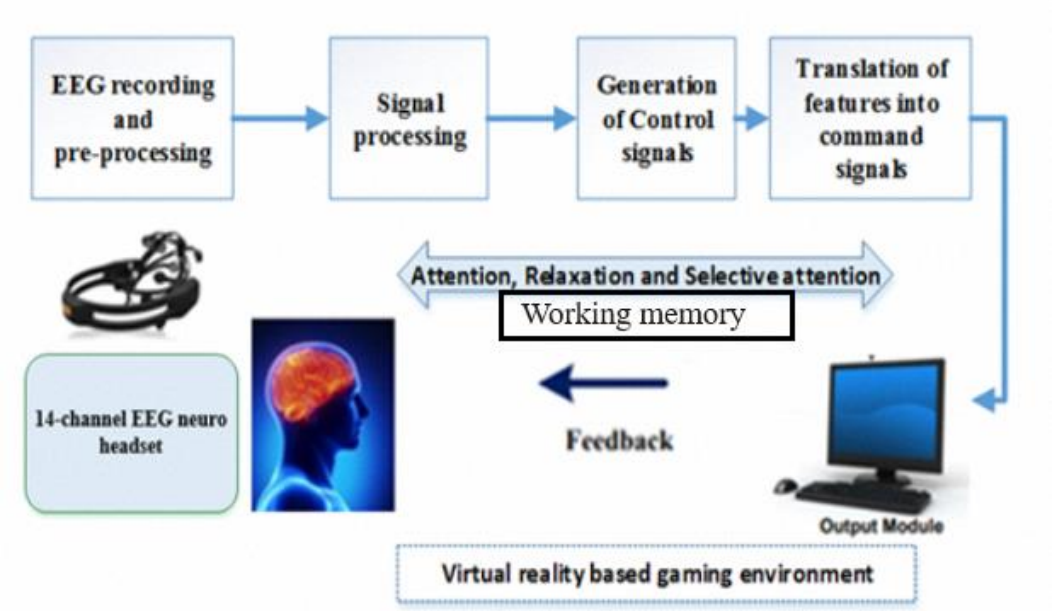


Fig. 2. Schematic of the proposed BCI game

Data acquisition module consists of a wireless headset named as Emotiv Epoc EEG headset/equivalent (10) and a software package for the preliminary processing of data. This module is responsible for measuring EEG signal from the scalp using 14 scalp electrodes, passing the signals to the computer software, preliminary filtering (notch filtering at 50 Hz and band pass filtering of 0.2-45 Hz), and analog to digital conversion.'

5.3.1 Signal Processing Module
This consists of several sub-modules responsible for pre-processing, entropy estimation/ attention score computation, EEG signal band power computation, and brain asymmetry index for selective attention estimation.

- Pre-processing Stage: The pre-processing unit is responsible for fine-tuning the raw EEG signal from the EEG headset for further processing.

- Attention Estimation: EEG signal from the preprocessing unit then undergoes the entropy estimation stage. Entropy is a measure of the complexity of a signal which increases with the degree of disorder. EEG activity during attention is slightly more complex than that in the inattention task, and the entropy of EEG signal during attention tasks is found to be greater than the inattention task. Leveraging from this finding reported in Vinod Prasad's work (collaborator from Singapore Institute of Technology) (11), we will use sample entropy to compute the attention score from EEG. After estimating the entropy features of all EEG channels, the attention score is computed as the average of values obtained from all channels.

- Relaxation assessment: The amount of relaxation is computed based on β/θ ratio (β-wave of EEG is in the range 13-30 Hz and θ-wave is in the range 4-8 Hz). As the subject relaxes, this ratio decreases.

- Selective attention detection: The selective visuospatial attention can be estimated from the brain asymmetry index, the ratio of band power of EEG alpha wave (8-12 Hz) from the right hemisphere of the brain to that in the left.

5.3.2 Output Module

The obtained EEG parameters associated with attention, relaxation and selective attention will be fed as the control inputs of the Graphical User Interface (GUI) of the proposed NFT game which forms the output module of the BCI system. Details of the gaming protocol, the interface and control mechanisms are explained in the next section.

5.3.3 System Controller Module

This module integrates all the modules in the system by initializing and controlling the data acquisition, signal processing, data integration and transmission of messages from Emotiv to GUI in a synchronized manner. The outputs from the signal processing module are quantified score values which are integrated with the GUI in real time in a synchronized manner.

5.4 Proposed Neurofeedback Gaming Interface

5.4.1 Game controlled by sustained attention, response time and selective attention:



Fig 3. Proposed gaming interface for sustained attention, response time and selective attention

The different levels of the computer game designed to be controlled by the sustained attention, selective attention and response time. The objective of the game is to make the avatar move towards a spaceship by completing the smaller task or game levels along the way as shown in Fig. 3. To complete the levels of this game, the subjects have to responds to the visual cues, increase their sustained attention and selective attention.The game begins with a calibration phase during which subjects need to attend the visual cue shown on the computer screen. The subject-specific threshold for attention and selective attention are computed using the calibration data.



Fig 3B. Gaming interface for Response time level

Response Time Level: The avatar moves at a predetermined settings and crystal-like objects glows randomly along the path (Fig. 2.B). Subjects have to collect the crystals by pressing the "space bar" within 1s duration of its glow and minimum 10 such crystals are needed to complete the whole game. A smaller response time indicates higher attentiveness.



Fig 3C. Gaming interface for Overt Attention level

Overt Attention Level: The game then moves to the second level as shown in Fig 3.C where the player connects bridge segments to guide the avatar toward the spaceship. The real-time alpha frequency (8-13 Hz), representing overt attention, must exceed calibration thresholds for the segments to move and create a path. Crystals are rewarded for maintaining alpha power above the threshold for at least 3 seconds.



Fig 3D. Gaming interface for Covert Attention and Sustained Attention level

Covert Attention and Sustained Attention Level: Finally, the game progresses to the last level as shown in Fig 2.D where the player escapes random on-screen enemies by restoring the attention levels reduced due to the enemy appearance. Speed increases as attention improves. Offline analysis assesses the covert attention and the level is completed successfully upon collecting a minimum of 10 crystals from the three levels.

Game controlled by working memory integrated with attention:

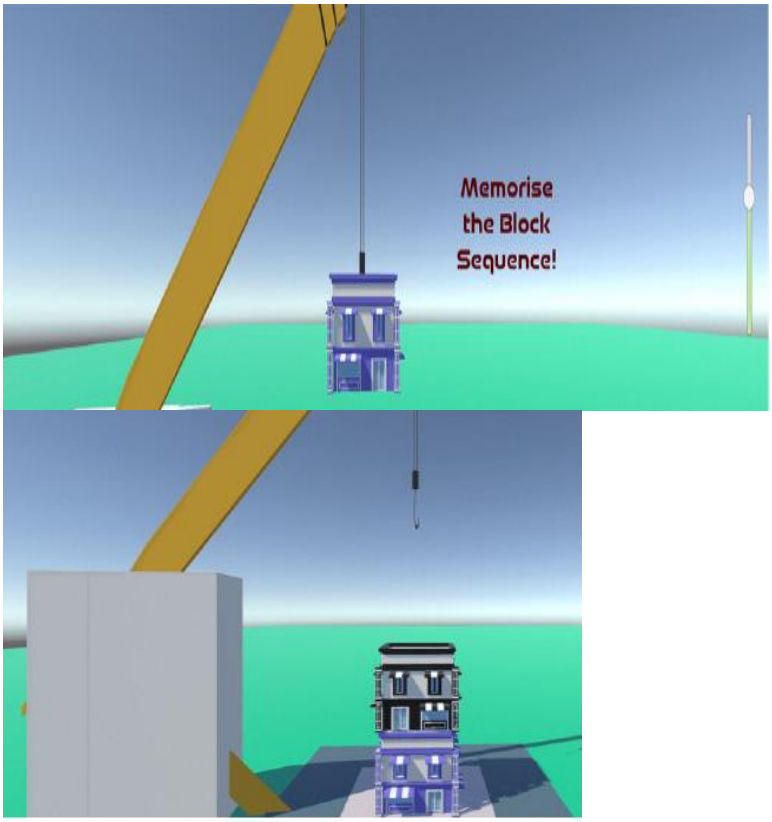


Fig 4. Proposed building blocks gaming interface controlled by working memory integrated with attention

The proposed game enables the player to advance through the game using their working memory and attention. The game control is based on a working memory task during which the player memorises the building block sequence on screen and correctly select and place the sequence one above other using their attention levels (Fig 4). The correct blocks will get unhooked from the crane only when the attention level of the player is above his/ her attention threshold value. The difficulty level of the game can be increased in subsequent trials by increasing the number of building block sequence starting from 3, 5, and 7 blocks displayed in a sequence as well as increasing the pre-defined attention threshold for displaying the two answer choices.

5.5 Assessment of Neurofeedback Training Outcomes using BCI Metrics

The effectiveness of the proposed neurofeedback games in enhancing attention and working memory will be evaluated using the following BCI metrics:

- The enhancement in threshold values in attention and relaxation computed from entropy and band power ratios of EEG.
- Consistency in attaining reasonable control over EEG modulation for speed control and effectiveness of brain asymmetry index in correctly selecting the directional tasks will also be examined.
- Table-filling score will be computed based on the percentage of correctly filled images. The attention scores for the current session as well as preceding sessions will also displayed at the end of the game.
- The activation of brain regions elicited by working memory operation will be investigated using the topographical distribution (heat maps) of EEG.

- We will analyze the cognitive performance of each child during the working memory task while playing the neurofeedback game using an EEG-based cognitive engagement index beta-to-(alpha+theta) ratio (BATR) and working memory impairment index theta-to-gamma ratio (TGR).
- The existence of significant differences in the performance parameters across sessions will also be examined using the Wilcoxon Signed-Rank test (a non-parametric test used to compare related samples or matched pairs and is suitable for evaluating two different conditions of the same subjects).
- Differences in the centiles for each component of the BASC-3 will also be measured pre-, immediately post BCI/ routine and at the end of the study.

5.6 Discontinuation/Withdrawal

Study intervention will be discontinued if subject is unable to tolerate the EEG headset. Subjects may withdraw voluntarily from participation in the study at any time. If withdrawal occurs, subjects will be asked to complete a questionnaire to study the reason for withdrawal. BASC-3 forms will be completed at the point of withdrawal from participation from study.

6. SAFETY MEASUREMENTS

6.1. Definitions

Serious adverse event (SAE) in relation to human biomedical research, means any untoward medical occurrence as a result of any human biomedical research which:

- results in or contributes to death
- is life-threatening
- requires in-patient hospitalisation or prolongation of existing hospitalisation
- results in or contributes to persistent or significant disability/incapacity or
- results in or contributes to a congenital anomaly/birth defect
- results in such other events as may be prescribed

Adverse event (AE) in relation to human biomedical research means any untoward medical occurrence as a result of any human biomedical research which is NOT serious. Adverse event can be any unfavourable and unintended sign (including an abnormal laboratory finding), symptom, or disease possibly/ probably/ definitely associated with the participant in the human biomedical research.

6.2. Collecting, Recording and Reporting of Serious Adverse Events (SAEs) to CIRB

The reporting requirements will be in accordance to the reporting requirements published on CIRB website at the time when the event took place.

Only related SAEs (definitely/ probably/ possibly) will be reported to CIRB. Related means there is a reasonable possibility that the event may have been caused by participation in the research.

The investigator is responsible for informing CIRB after first knowledge that the case qualifies for reporting. Follow-up information will be actively sought and submitted as it becomes available.

Related AEs will not be reported to CIRB. However, the investigator is responsible to keep record of such AEs cases at the Study Site File.

6.3. Safety Monitoring Plan

All data will be entered into a secure password-protected document in the desktop. Access to the data will only be open to the study investigators. Hardcopy of the data forms will be stored in a locked cupboard in the department.

All adverse events of BCI-NFT in all participants will also be logged and safety of BCI-NFT will be monitored by the principal investigator.

In cases where participants prefer to have the BCI-NFT sessions conducted at home, prior consent by participant and their caregiver is obtained to allow entry of study personnel into their homes. The study personnel will first perform hand hygiene before use of study equipment. The study personnel will adhere to the study visit schedule particular for the individual participant and will not deviate unless requested by participant/caregivers. Post home visit, adequate hand hygiene is conducted again , including the disinfection of study equipment prior to leaving the house.

6.4. Complaint Handling

If there is any complaint of the BCI-NFT or EEG technology, the Principal Investigator will be informed immediately to rectify the issue. If the subject is unable to tolerate the BCI-NFT, the study will be discontinued.

7. DATA ANALYSIS

7.1. Data Quality Assurance

The Principal Investigator will ensure accuracy of the data entered. Identifiable patient data will be anonymised. Access to the data will only be open to the investigators in the team.

7.2. Data Entry and Storage

All data will be entered into a secure password-protected document in the desktop. Access to the data will only be open to the study investigators. The Principal Investigator will ensure accuracy of the data entered. Hardcopy of the data forms will be stored in a locked cupboard in the department.

8. SAMPLE SIZE AND STATISTICAL METHODS

8.1. Determination of Sample Size

Assuming a pooled standard deviation of 4 units, the study would require a sample size of 21 for each group to achieve a power of 80% and a level of significance of 5% for detecting true difference in means between the test and reference groups of 3.5 units, allowing for drop out rate

of 20%.These values were taken from a paper by C.G. Lim et al that looked at the use of BCI-NFT for children with ADHD (C.G. Lim 2019). It reported a mean reduction of 3.5 (SD 3.97) in the inattentive scores of the treatment group with BCI-NFT. As such, we aim to recruit 25 patients in each study group.

8.2. Statistical and Analytical Plans

The SPSS® 25.0 software (IBM, Armonk, New York, United States) will be used, with statistical significance defined as a p-value of <0.05. Independent t-tests will be conducted to compare differences in outcomes between the two treatment groups; Wilcoxon signed-rank test will be used to compare continuous variables at start and end of intervention. One-way Repeated Measure ANOVA will be conducted to assess changes in outcomes and patient scores within the group across the timepoints. Non-parametric testing will also be conducted to observe for significant differences in patient outcomes within the groups at each timepoint

9. DIRECT ACCESS TO SOURCE DATA/DOCUMENTS

The investigator(s)/institution(s) will permit study-related monitoring, audits and/or IRB review and regulatory inspection(s), providing direct access to source data/document.

10. QUALITY CONTROL AND QUALITY ASSURANCE

The principal investigator will ensure adherence with the protocol and accuracy in relation to data entry. Quality of the data will be ensured and monitored every month during the study period.

The investigator will maintain essential study documents (protocol and amendments, source documentation, relevant correspondence, and all other supporting documentation) in a confidential manner as required by the approving ethics committee.

11. ETHICAL CONSIDERATIONS

This study will be conducted in accordance with the ethical principles that have their origin in the Declaration of Helsinki and that are consistent with the Good Clinical Practice and the applicable regulatory requirements.

This final Study Protocol, including the final version of the Participant Information and Consent Form, must be approved in writing by the Centralised Institutional Review Board (CIRB), prior to enrolment of any patient into the study.

The principle investigator is responsible for informing the CIRB of any amendments to the protocol or other study-related documents, as per local requirement.

11.1. Informed Consent

In obtaining and documenting informed consent, the investigator will comply with the GCP guidelines and to the ethical principles that have their origin in the Declaration of Helsinki. Potential participant will be identified by therapist or doctor in KKH/and if inclusion criteria met, consent will be signed in the presence of a witness. Consent taking will take place in the clinic room or rehabilitation outpatient room. The study investigator will sign the consent and make sure that study information is correctly given to the study participant.

If the child has some but not full understanding of the Participant Information Sheet & Consent Form (attached to Section P6), (aged 6 and above), the simplified version (i.e. Child/ Participant Assent Form) will be used. If the child aged 12 and above, has sufficient understanding of the Participant Information Sheet & Consent Form, he will sign it with the parent co-signing in the legal guardian section.

11.2. Confidentiality of Data and Patient Records

All data will be entered into a secure password-protected document in the desktop. Identifiable patient data will be anonymised. Access to the data will only be open to the study investigators. Hardcopy of the data forms will be stored in a locked cupboard in the department.

12. PUBLICATIONS

Following approval by CIRB, the study will be registered on ClinicalTrials.Gov by the Principal Investigator. Study results will be published in peer-reviewed scientific literature regardless of the trial's outcome. The CONSORT 2010 Statement will be adhered to in publication of study findings to ensure that international standards of authorship and publication are met

13. RETENTION OF STUDY DOCUMENTS

When the study is completed, the research data will be kept in a secure password-protected document in the desktop at the department. All the documents will be retained for at least 7 years after completion of the research study

14. FUNDING and INSURANCE

'Reimbursement to patient upon completion of study' to be amended to transport claims instead, to accommodate the new arrangement of home visits.

OVERALL BUDGET		YEAR 1	YEAR 2 ^	YEAR 3	TOTAL (S$)
MANPOWER #					
JOB TITLE	FTE				
Clinical Research Coordinator	0.1	7,500	7,500	7,500	**22,500**
	SUBTOTAL	**7,500**	**7,500**	**7,500**	**22,500**
OTHER OPERATING EXPENSES					
Doctorate-level scientist		18,000	18,000	18,000	54,000
BASC-3 Handscore Starter Kit (50 forms)		2,600	-	-	2,600
Reimbursement to patient upon completion of study @ $150/pax		-	3,750	3,750	7,500
Stationery/Hard-disk/Archives		2,000	1,600	1,500	5,100
CIRB application		4,800	-	-	4,800
Consumables		500	500	500	1,500
	SUBTOTAL	**27,900**	**23,850**	**23,750**	**75,500**
CAPITAL EQUIPMENT					
Wireless base model EEG system		2,000	-	-	**2,000**
	SUBTOTAL	**2,000**	**0**	**0**	**2,000**
	GRAND TOTAL	**37,400**	**31,350**	**31,250**	**100,000**

List of Attachments

Appendix 1 References

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2. Slomin BS, McCarthy ML, Ding R, et al. Health care utilization and needs after pediatric traumatic brain injury. Paediatrics 2006;117(4):e663-674
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11. Kavitha P Thomas, A. Prasad Vinod, and Cuntai Guan. “Design of an online EEG-based neurofeedback game for enhancing attention and memory”, 35th Annual International IEEE Engineering in Medicine & Biology Society (EMBS) Conference, Sandiego, USA, November 2013.
12. Leonardo Corsi, Piergiuseppe Liuzzi, Sara Ballanti, Maenia Scarpino, Antonio Maiorelli, Raisa Sterpu, Claudio Macchi, Francesca Cecchi, Bahia Hakiki, Antonello Grippo, Antonio Lanatà, Maria Chiara Carrozza, Leonardo Bocchi and Andrea Mannini, “EEG asymmetry detection in patients with severe acquired brain injuries via machine learning methods”, Biomedical Signal Processing and Control, Volume 79, Part 1, January 2023.