CASE PRESENTATION

Applying our model to rehabilitation at the OZC

Eliot
**ELIOT**

08/1997 Road traffic accident
Severe traumatic brain injury
Multiple fractures; craniectomy; coma 2 weeks
CT: left sided contusions

**Cognitive**
- Working memory: low average
- Divided attention: impaired
- Verbal and nonverbal recognition memory: impaired
- Verbal learning: impaired (slow, inefficient)
- Executive functions: impaired flexibility, failure to generate ideas or strategies in problem-solving, better with structure

**Mood**
- Low mood
- Irritable, aggressive at times
- Lonely
- Used alcohol to cope

**Physical**
- Good physical recovery
- No medications

**Communication**
- Answered questions with short responses
- Asked few questions
- Talked about small range of topics
- Got ‘stuck’ on a topic
- Superficial awareness of deficits
- Excessively fast speech

**GOALS**
- Improve awareness and understanding of NP impairments
- Provide strategies to compensate for neuropsychological impairments
- Assess volunteer/work interests and abilities and develop appropriate plan
- Address social communication difficulties across a range of settings
- Provide psychological support to increase self-confidence and reduce irritability and low mood
- Education and support for family

**Functional**
- Living alone in warden-supervised flat with regular visits from warden
- Strong family but few friends
- Independent in personal care; shopping, cooking, cleaning, laundry, and use of public transportation
- Had driving licence but no car
- Attending Headway and had sought volunteer or paid work with no success
- Drinking 10-15 units of alcohol/week

Age 32 years
19 at time of injury
Good student
Passionate about golf
Doing gap year prior to entering US university on a golf scholarship
No vices
Solid family
Personal history

• 19 years old at time of injury
• Good student
• Passionate about golf
• Doing gap year prior to entering US university on a golf scholarship
• No vices
• Solid family
Medical history

- August 1997: Single vehicle road crash
- **Injuries**: Fractured pubic ramus, left ulna, and left zygoma; severe brain injury
- **CT**: left sided contusions
Medical history

- **Hospital course:** Induced coma two weeks; post-traumatic amnesia 8 weeks; prolonged ventilation; decompressive craniectomy with cranioplasty; ORIF of fractured ulna

- **Discharge:** December 1997
Medical history

Current:
• No medical problems
• No medications
Work history

• Several unskilled labour jobs

• 3 years at a retail job until he made the unfortunate decision to borrow money for transport home from the till and was caught on tape in March 2009 and terminated

• Unemployed since March 2009
Relationships

- Single, with supportive family including parents, two sisters, two brothers-in-law
- No successful intimate relationships since injury; few friends
Admission to OZC:

• September 2010 – February 2011

• **Self pay after PCT refused funding
Status at entry

- Living alone in a warden-supervised flat with regular visits from the warden

- Independent in personal care as well as in shopping, cooking, household cleaning, laundry, and use of public transportation

- Had driving license but no car

- Attending Headway and had sought volunteer or paid work with no success

- Drinking 10 to 15 units of alcohol per week or more, especially when depressed.
Interview observations

• Physically fit
• Answered questions with short responses
• Asked few questions
• Talked about small range of topics
• Got ‘stuck’ on a topic
• Superficial awareness of deficits
• Excessively fast speech
Cognitive testing

- **Working memory**: low average

- **Divided attention**: impaired

- **Verbal and nonverbal recognition memory**: impaired

- **Verbal learning**: impaired (slow, inefficient)
  - Does not use strategies to facilitate learning
Cognitive testing

Executive functions:

• Wisconsin Card Sorting Test: cannot shift flexibly from one concept to another
• Porteus Mazes Test (K-M Version): showed ability to organise if given structure
• Verbal Fluency Test: reduced fluency
• Multiple Errands Test: did not generate his own strategies but used strategies that were suggested to him
• Verbal List Learning: did not use strategies to facilitate learning
Executive functioning – Action regulating

- Difficulty generating and elaborating ideas
- Answers questions with short responses and few ideas
- Asks very few questions
- Talks about a small range of topics
- Poor initiative and carry through of plans
- Difficulty generating actions (can manage within a routine but cannot vary his pattern or think beyond the immediate)
Executive functions – Executive cognitive

- Gets ‘stuck’ on a topic rather than flexibly moving to a new idea
- Shows concrete thinking meaning that actions may be prompted by immediate feelings rather than abstract future goals
- Has difficulty monitoring and reflecting on thoughts and actions consistently
- Loss of sense of humour
- Reduced flexibility in conversation and thoughts, restricting goal options
- Trouble shifting easily from one idea or topic to the next
- Benefits from structure and routine and prompts and strategies
Executive functions - behavioural/emotional self-regulatory

- Irritable and aggressive (he attributed outbursts to not thinking before acting)

- Reduced monitoring and evaluating his behaviours, so he may say and do inappropriate things
Executive functions - Metacognitive

- Fluctuating and superficial awareness of deficits

- Struggles to make the connections between his life problems and his brain injury related impairments.
GOALS

• Improve awareness and understanding of NP impairments
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• Provide psychological support to increase self-confidence and reduce irritability and low mood
• Education and support for family
GOAL #1

Improve awareness and understanding of neuropsychological impairments (relates to Metacognition)

STRATEGIES

• Participation in 6 week intensive psycho-education programme
• Peer and staff feedback
• Videotaping of behaviour

Develop formulation
Cognitive Rehab.
- Psychoeducation re. nature of difficulties
- Developing personal goals “thinking outside the box”
  - “Stop Think… do I have enough?”
  - “Stop Think.. Check to do list”
- Goal Management Framework

ELIOT

Setting Goals
- Concrete thinker, reduced cognitive flexibility

Developing Plans
- Poor generation

Carrying Out Plans
- Reduced initiation & problem solving

Self Monitoring
- Poor Emotion Regulation
- Affected

Communication

Goals:
- Increase awareness of strengths & weaknesses – videos of golf lessons
- Improve verbal communication, reduce speed, increase fluency, improve NVs – golf lessons, community meetings
- Develop social confidence – speed dating

Mood

Mood Goal - improve self esteem and reduce self-criticism and irritability

Compassion Focussed Therapy
- Increase calming, soothing activities (being with family, socialising, walks)
- Support generation of positive ideas and anecdotes

Mindfulness
- Calming strategy to reduce irritation and self criticism

Functional Activities (work goal – become a golf tutor)
- Forward planning for golf lessons
- Structuring session with mnemonics
- Encouraging to use analogies, create library of exercises
- Create plan for each lesson
  - “Stop Think… do I have enough content?”
- Laminated sheets of lessons
- Volunteer placement at local golf club
- Cooking lunch for staff – planning, implementation
  - Risk of inappropriate comments or conduct
GOAL #2

Provide strategies to compensate for neuropsychological impairments (relates to Executive Cognition)

STRATEGIES

• FiloFax
• Alerts/NeuroPage
• Stop Think Do I Have Enough?
• Goal Management Framework
GOALS # 3 AND #4

• Assess volunteer/work interests and abilities and implement appropriate plan

• Address social communication difficulties across a range of settings

STRATEGIES

• Projects (behavioural experiments) – based on activity analysis followed by an understanding of the EF involved
GOAL #5

• Provide psychological support to increase self-confidence and self-esteem and reduce irritability and low mood (relates to Emotion/Behavior Regulation)

STRATEGIES
• Compassion Focused Therapy
• Relaxation and breathing
• Mindfulness
GOAL #6

Education and support for family STRATEGIES

• Understanding Brain Injury (UBI) Days

• Family Days throughout program

• Weekly contact with key worker

• Progress and review meetings
Project #1

AIM
• Cooking: Eliot chose to cook lunch for staff

STRATEGIES
• GMF and Stop Think
WHAT HAPPENED?

- Selected appropriate recipe, bought correct ingredients, right quantities BUT - not enough food to go round.

- PROBLEM ENCOUNTERED – wok was too small so reduced quantities. Didn’t use GMF/Stop think at the right time to solve the problem in the moment. Was able afterwards to use the strategies with support to find alternative solutions.
Project #2

AIM

• Increase social confidence through speed dating
Project #2

STRATEGIES

• Used GMF for planning and organisation – travel planning, arrangements for tickets etc.

• Involved problem solving i.e. brainstorming possible conversational starters, topics to discuss, and what to wear

• Feedback - Conversation practice initially in the session and later a mock event was held with staff as volunteers where Eliot could demonstrate his strategies and prepare for the event.
Project #2

WHAT HAPPENED?

• Eliot did really well with all of the prep for the speed dating
• BUT when he was meant to book his place, flexibility came into play and he didn’t book his place because he didn’t want to give his bank details to the person on the phone.
• He didn’t go!! The staff were gutted.

• Lessons learned: Eliot needs more support throughout the process. We got him a “buddy.”
Project #3

AIM

- Become a golf tutor
Communication challenges

EF Activation domain

Difficulty generating ideas
• Limited topics in conversation

Poor initiation
• Passive in conversations, waits for others to start conversations
Communication challenges

EF Executive cognitive domain

Concrete thinking
- Unable to interpret inference

Reduced flexibility
- Trouble managing changes on the spot, thinking of alternatives

Difficulty with problem solving
- Thinking of alternatives when issues arise

Poor organisation of speech
- For example, jumping around within a lesson
Communication challenges

EF Metacognitive domain

Awareness

• Difficulty being aware of his own behaviour (verbal/non-verbal) and others’ responses. For example, he was observed knocking a student in the back of the knees with golf club to correct posture.
Communication strategy

• Viewed videos of golf lessons to observe communication and speech and used a pro golfing DVD as a guide
• Monitored speech speed, fluency, and verbal organisation of the structure of the golf lessons
• Used presentations of community news item and chairing meetings as well as later golf lessons to practice self-monitoring and non-verbal skills, e.g. increasing eye contact
• Monitored inappropriate non-verbal behaviour (knocking student in the back of the knees with golf club to correct posture)
• Strengths: confidence about golf and enthusiasm in teaching
Vocational challenges

EF Activation domain

Generating ideas
• Difficulty in coming up with illustrative examples or creative exercises for pupils
• Lessons lacked content and structure – were very short and fizzled out

Poor initiation
• Initiation was better when topic was of interest – initiated circulating fliers to clients and staff, put up ‘sign up’ list in common room, chased staff/clients for commitment to lessons.
Vocational challenges

EF Executive cognitive domain

Concrete thinking

• Unable to see things from his pupils’ point of view

Reduced flexibility

• Difficulty in changing tack if lesson/pupil demands it
• Difficulty in explaining things in different ways
• Unable to adapt content or descriptions to different levels of student
Vocational challenges

EF Executive cognitive domain

Switching difficulties
• May be less of a problem as the focus would just be on golf

Poor problem solving
• Able to offer suggestions to correct problems related to golf, but not to solve problems related to weather, equipment, staff availability etc.

Self-monitoring
• Risk of inappropriate comments or conduct
Vocational strategies

• Forward planning for golf lessons
• Use of short phrases and mnemonics to encourage him to structure session and think about whether he has enough content: Explain (What why how) Demonstrate, observe, reflect
• Use of familiar analogies to explain things
• Building of a library of exercises
• Use of a set structure to lessons and plan for what goes into each – beginning, middle, end – guided at first, then independent with prompting in use of a template
• Strategies used - stop think – do I have enough content? GMF for decision making
• Laminated sheets created
Vocational strategies

NEXT STEP

• Volunteer work placement set up with local golf club – shadowing the golf pro, moving towards taking own classes and using own materials plus adding to this to create his own 8 week set of lesson plans.
• Reflection and feedback encouraged throughout
• Clear ground rules established with contract to guide behaviour
Cognitive strategies
- Stop Think
- Goal Management Framework
- FiloFax
- Alerts (NeuroPage)

Mood strategies
- Compassion
- Mindfulness

Communication strategies
- Generating
- Self-monitoring
- Feedback

Putting strategies into practice:
Behavioral experiments
Mood outcome
- Mood is good
- Irritability is gone
- Less alcohol use

Cognitive outcome
- Uses strategies
- Generates his own ideas now
- Fewer complaints of acting without thinking

Functional outcome
- Lives in own flat
- Teaching juniors at golf club
- Job seeking with support of Bucks CBIT

Enjoying life again

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Eliot’s story is featured in: