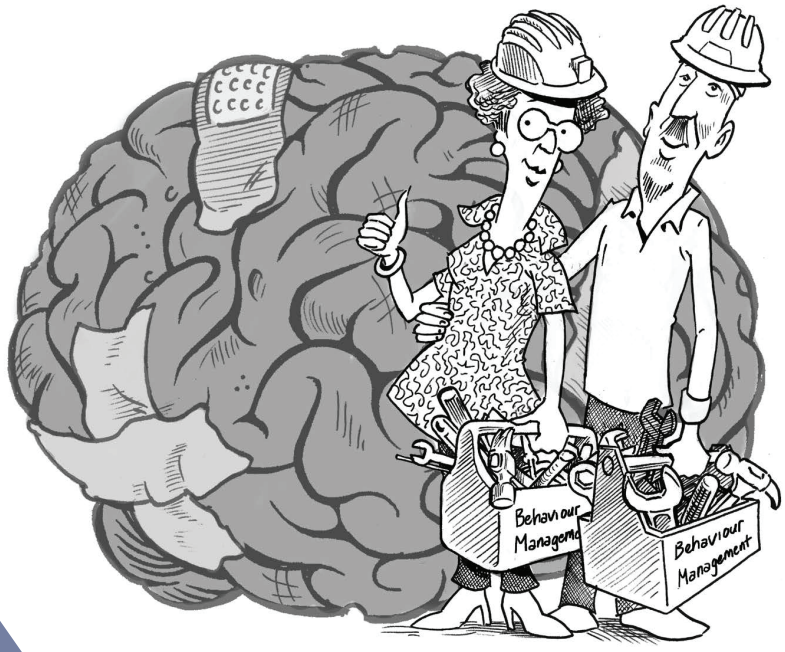
Flinders UNIVERSITY

POSITIVE BEHAVIOUR SUPPORT FOLLOWING BRAIN INJURY: A FAMILY EDUCATION WORKBOOK



Alinka Fisher, PhD

The purpose of this workbook is to provide families with information regarding common behaviour changes following brain injury, and to introduce basic principles of positive behaviour support that can be utilised within community settings.

This workbook is the educational resource for the FAB- Positive Behaviour Support (FAB-PBS) program. The FAB-PBS program consists of an education component and individualised behaviour intervention, which together aim to empower family caregivers to better promote positive behaviours and respond to behaviours of concern following brain injury in community settings.

The FAB-PBS program was developed and piloted over a three-year program at Flinders University by Dr Alinka Fisher and supervisors Dr Michelle Bellon, Prof Sharon Lawn and Prof Sheila Lennon. The feasibility of the FAB-PBS program is currently being examined through a two-year study funded by the Lifetime Support Authority (LSA).

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This research has been conducted according to the NHMRC National Statement of Ethical Conduct in Human Research, 2007, and has been approved by the Social and Behavioural Research Ethics Committee, Flinders University (Project Number 7766). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116 or by email human.researchethics@flinders.edu.au

IMPORTANT NOTE

If you are confronted with high-risk behaviours, where the behaviour is presenting danger to you or your family member with brain injury, please seek help immediately:

Domestic Violence Helpline (24 hours): 1800 800 098

Lifeline (24 hours): 13 11 14

Crisis Care (4pm-9am): 13 16 11

CRANA Confidential Support Line (for rural families) (24 hours): 1800 805 391

Thank You!

Thank you for participating in this program. We do hope you find the sessions helpful and look forward to your feedback.

Your Involvement

You will be guided through this workbook over four weekly education sessions. These sessions will run for two hours, during which we will discuss common behaviour changes following brain injury and introduce basic principles of positive behaviour support. You will be given the opportunity to apply this information to your individual situation, with the completion of activities being an important part of this process.

The time and location of these sessions will be finalised during your initial meetings with the Program Facilitator.

Follow-up phone calls will also be provided to discuss your progress. This will give you further opportunity to ask any questions you may have about the program and your involvement.

Once you have completed this four-week program you will continue to meet with the Primary Researcher for approximately two hours each fortnight for four visits to develop and implement an individualised behaviour support plan. You will then be invited to attend two monthly group sessions with families who have also completed the FAB-PBS program.

Weekly Overview

Week 1

- Welcome, your involvement
- Module 7: What to do in a crisis - *Safety First!*
- Module 1: Why do behaviours change after brain injury?

Week 2

- Module 2: Understanding and responding to anger
- Module 3: Observing & defining behaviour

Follow-up Phone Contact will be provided to discuss your progress with the Program Facilitator

Week 3

- Module 4: Analysis. What is the purpose of the behaviour?
- Module 5: Improving the environment (antecedent strategies)

Week 4

- Module 6: Reinforce desired behaviours. Identifying behaviour support strategies that might work for you

Meet with Program Facilitator to develop Individualised Behaviour Support Plan

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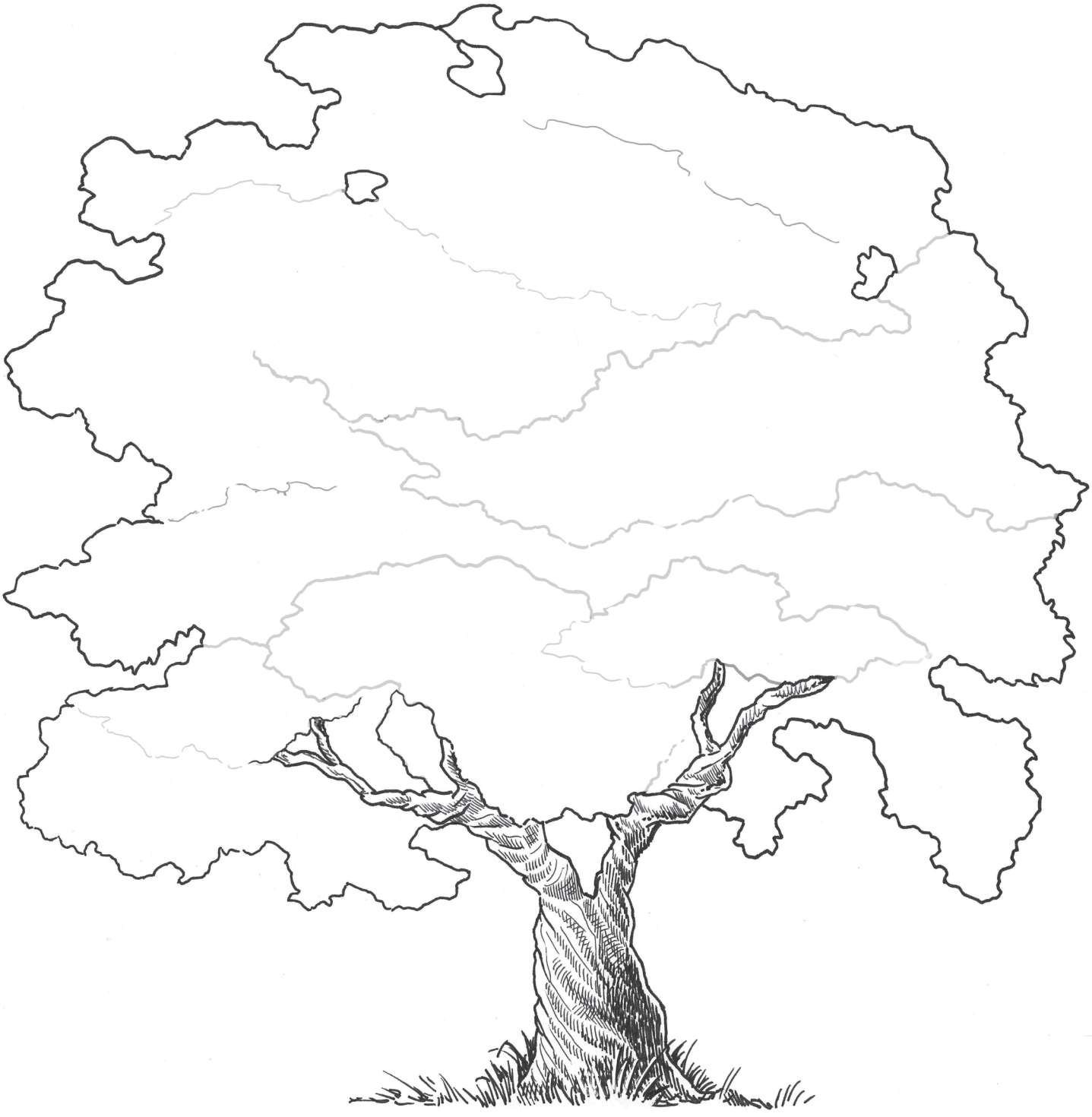
The Strengths Tree

Let's first think about the strengths of your family member with brain injury. What are his or her skills, talents and achievements? What is it about them that you love/admire?



Module 1

Why do behaviours change after brain injury?

Aim

During this module we will identify common behaviour changes after brain injury. We will also explore how damage to the brain and environmental factors may influence these behaviours.

Outcomes

On completing this module you should be able to:

- understand that behaviour is a product of physiological processes and external factors
- identify what behaviours you find challenging in your current situation, and what factors may be contributing to these behaviours

What are behaviours of concern (or 'challenging behaviours')?

Behaviours deemed 'challenging' will vary between individuals,
but may include:

- physical & verbal aggression (e.g. hitting, verbal abuse)
- sexually inappropriate behaviours
  (e.g. suggestive touching, flashing, sexual propositions)
- socially inappropriate behaviours
  (e.g. staring at others, using foul language, urinating in public)
- absconding (wandering off)
- apathy (lack of interest or concern)
- lack of initiation
- reduced social skills
- irritability
- mood disorders

Behaviours often become challenging when they are perceived to be of such intensity, frequency or duration that personal safety is at risk, or if the behaviour negatively influences relationships or community participation.

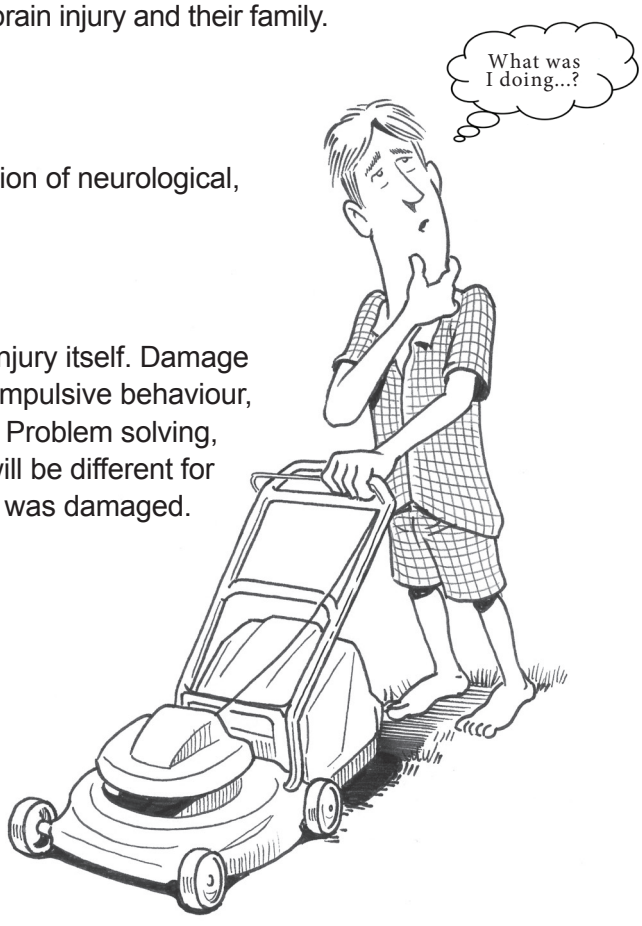
These behaviours may have been present before the brain injury, or only appeared afterwards. Coming to terms with and managing these can present unique difficulties for the individual with brain injury and their family.

Why do challenging behaviours occur?

Challenging behaviours often occur as a result of a combination of neurological, reactive and premorbid factors (from before the injury).

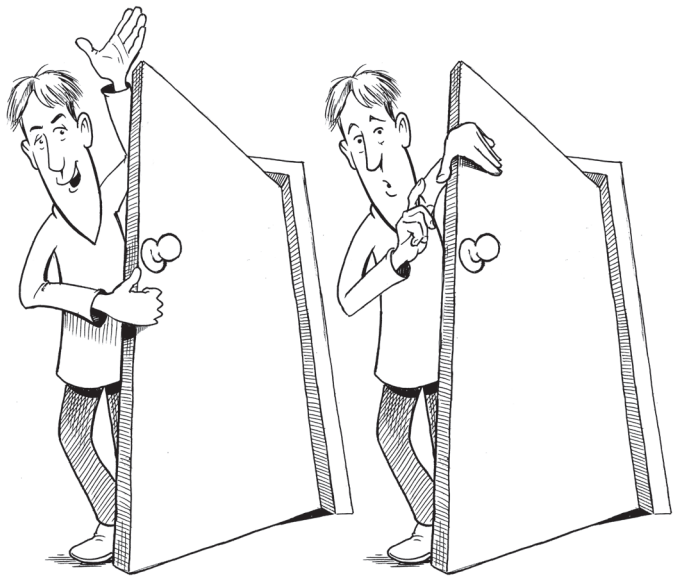
Neurological factors

Challenging behaviours are often a direct result of the brain injury itself. Damage to the brain can result in a wide range of changes, including impulsive behaviour, reduced tolerance, distractibility and cognitive difficulties (eg. Problem solving, learning, memory, decision-making and reasoning). These will be different for each individual, and will depend on where and how the brain was damaged.



What changes might occur as a result of the brain injury?

- Slowed information processing (delayed response)
- Difficulty following a sequence of events (not knowing what happens next)
- Mental fatigue
- Short attention span
- Poor concentration
- Easily distracted
- Difficulty learning new things or remembering new information
- Difficulty working out how to do things (problem solving)
- Unable to think of a new solution (flexible thinking)
- May repeatedly refer to the same topic or keep returning to that topic
- May start something without considering options or consequences
- Thinking might be rigid and concrete
- Reduced empathy
- May take things literally
- May not pick up on social cues (e.g. understanding non-verbal cues - i.e. someone hinting tof finish the conversation)
- May be unaware of own limitations and have unrealistic expectations



The information provided here is a guide only. Each individual will display a different pattern of changes, with varying severity. One person may, for example, have a poor memory, minor problem-solving difficulties, but no change in their personality.

What behaviour changes have you noticed in your family member since their brain injury?

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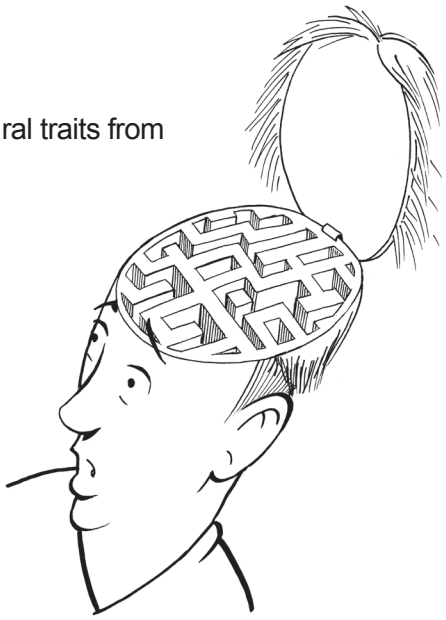
Reactive factors

Apart from the brain injury itself, there are other factors which may affect the person's behaviour.

These may include:

- feelings of loss and frustration
- spending a lot of time attending appointments
- less contact with friends
- reduced income and the financial uncertainty of the future
- difficulty returning to work or finding work
- physical changes
- reduced independence and the need to rely on others for day-to-day activities
- pain
- fatigue
- other health issues (e.g., seizures, mental health)

Premorbid factors



It is also important to consider the person's cognitive, social and behavioural traits from before the brain injury. These can also influence current behaviours.

For example their previous:

- problem solving skills
- personality and coping style
- interpersonal and communication skills
- levels of motivation
- experiences of substance use
- cultural factors

What specific behaviours do you have difficulty understanding or responding to? Please identify one of these to focus on during the following modules.

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Did these behaviours start occurring after the injury, or were they present before the injury?

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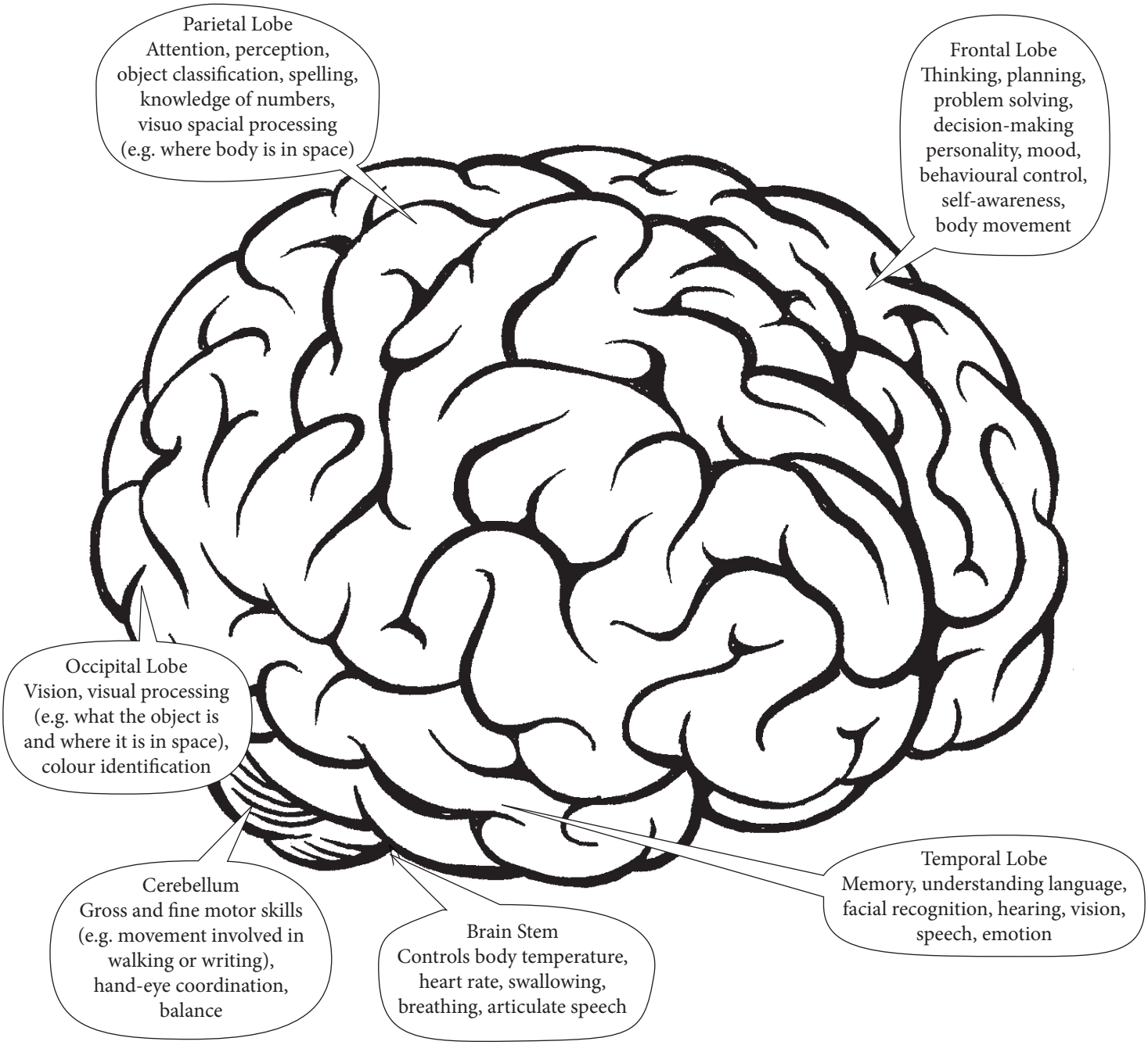
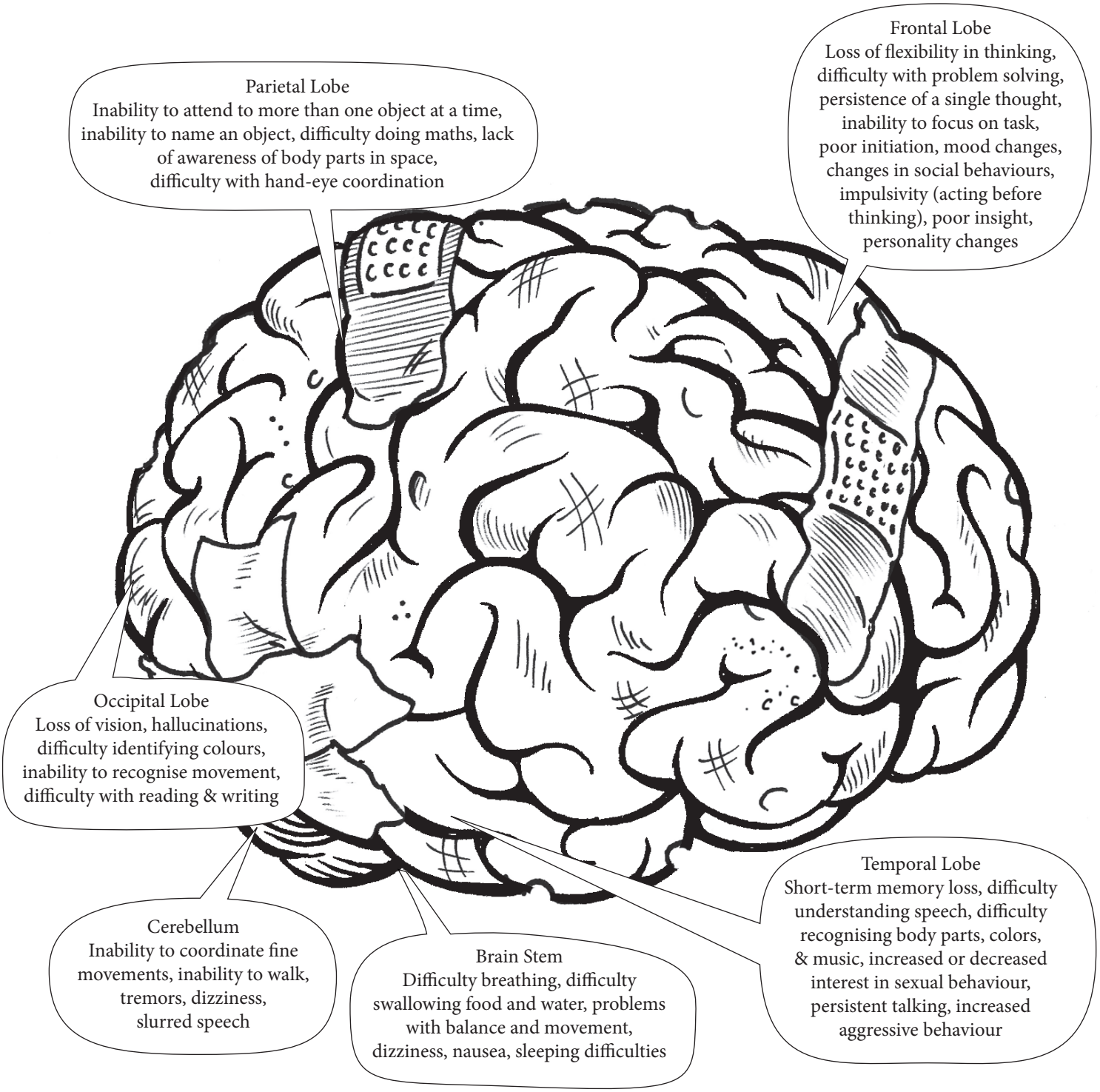
The brain and its functions

This picture describes the main functions of different parts of the brain.



When the brain is damaged we may see the following changes:

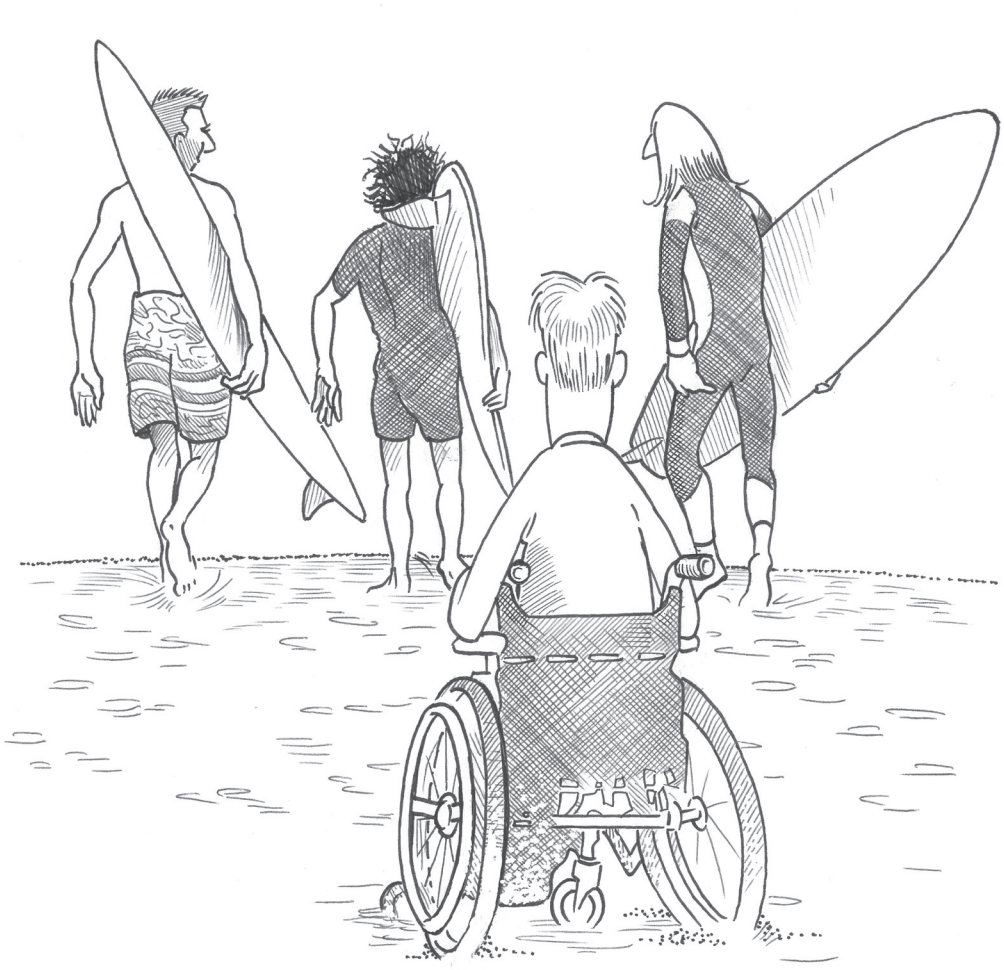


Temporary confusion and disorientation

In the early stages of recovery the brain may be severely damaged, causing the individual to be confused and disoriented. This can result in significant challenging behaviours.
In some cases long-term brain damage occurs. The frontal and temporal lobes, which play an important role in behaviour and emotions (see image on page 10), are particularly vulnerable to damage in traumatic brain injury (e.g. vehicle accidents and sporting injuries).

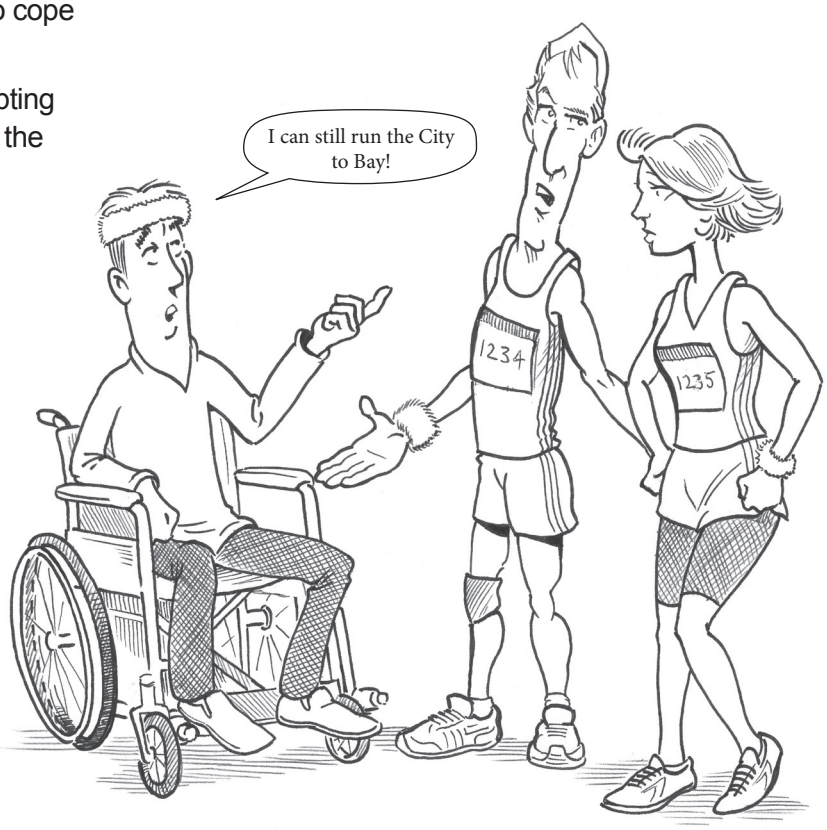
Adjusting to change after brain injury

A person with brain injury often has to adjust to cognitive and/or physical disabilities following the injury. They often go through a grieving process for the person they were and for what they have lost. As a result they may experience anger, resentment, depression, emotional lability (constant changing emotions), withdrawal, or loss of self-confidence.



Some people with brain injury try to cope by denying their problems.

This may lead to problems in accepting rehabilitation and reintegration into the community.



Other people may have difficulty with insight, and are unaware of their changed behaviour and the effects this has on those around them. This is due to damage to the frontal lobe, which affects their ability to monitor behaviour. This can improve overtime.

The person with brain injury may be unaware of their tactlessness or inappropriate behaviour.

People may not be able to monitor their behaviours and learn from their mistakes after brain injury due to reduced insight and memory difficulties.

And what about your adjustment?

Families also go through an adjustment and grieving process. This process will be different for every family, as you come to terms with the brain injury and are then faced with the challenges of supporting changed behaviour within your home and community.

Your family dynamics before the injury will have an impact on how your family cope and adjust to changes following the brain injury. Your role in the family may change. Perhaps you will take on a more leadership role, taking on extra responsibilities. This may include increased pressure on your income, responsibility for transport, managing finances, making decisions and providing emotional/ practical support. Your loved one may also find it difficult coming to terms with this reduced responsibility and increased dependency. As you both learn to adapt to your new roles, there will be a period of adjustment.

The transition home may not be all that you'd hoped…

Although the transition home may be exciting, the person with brain injury may find it difficult to transition from the structured hospital setting to the less structured home environment. They may be slow to respond to change due to cognitive difficulties, and may be more easily disturbed by change to their routine.

The person with brain injury may become overwhelmed in crowded environments and may not tolerate noise.

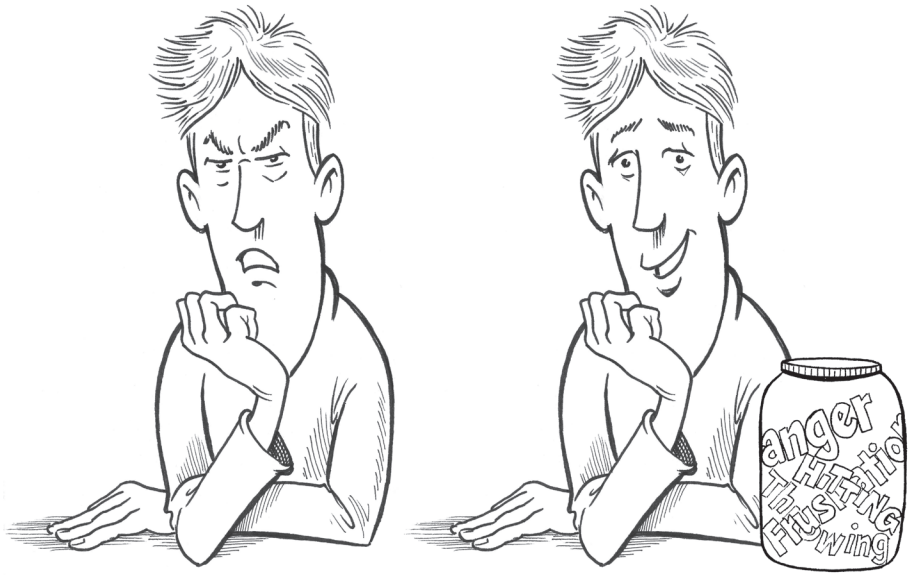
Friends and family might find it difficult to understand and accept the changes in the person with brain injury (especially where there is not visible evidence of disability).

They may stop visiting, and the person with brain injury may feel isolated. This places further burden on family relationships.

We have discussed why behaviours might change after brain injury... so now what?

It is easy to become consumed with 'the problems'. Let's think of the positive attributes you identified in the Strengths Tree at the beginning of Module 1, and separate the person with brain injury from their challenging behaviours

Whilst a particular behaviour may be undesirable or offensive, it's important not to make negative judgments about the whole person. Remember to focus on the individual's strengths, as well as their difficulties, and believe that there is capacity to replace the challenging behaviours you have identified with more adaptive ones.



Basic support strategies

There are a few strategies that we can use to minimise the impact of some of the common cognitive changes after brain injury.

We can:

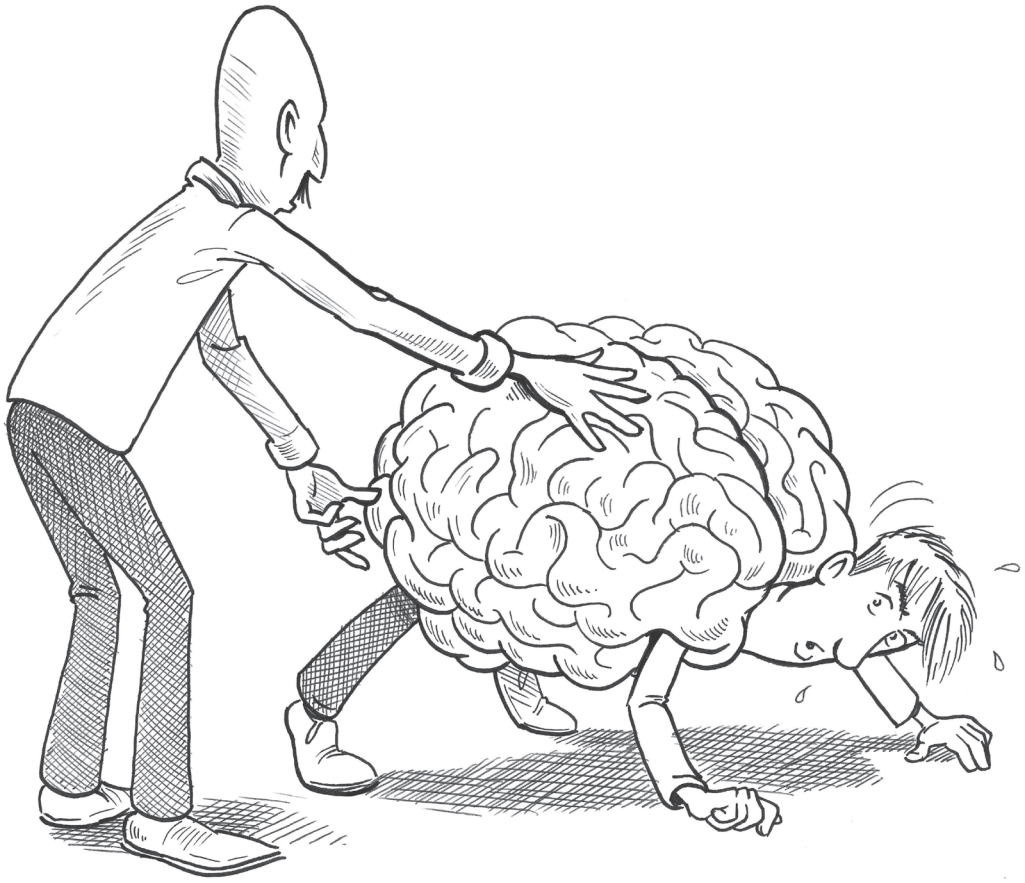
- speak clearly, using short and simple sentences
- repeat information if necessary
- keep activities and instructions short and uncomplicated
- prompt individuals to the next step in a task (or before moving to the next activity)
- limit distractions
- identify achievable outcomes, ensuring there is a purpose
- keep the environment organised
- keep calm and in control, and avoid using emotional undertones (check that you are in the right head space when doing activities - is this the best time for *you* to be supporting behaviour?)
- allow plenty of time to do things - limit rushing

Overleaf is a more comprehensive list of support strategies that apply to specific cognitive changes after brain injury. Try not get too overwhelmed by all the strategies presented here, but rather see if any of these might be helpful in your situation.

Sometimes small changes in the way we respond and interact with a person may significantly change their behaviour. These strategies place importance on allowing time, setting achievable goals/tasks, reducing distractions and communicating in a clear manner (and repeating if necessary). This is not always easy and can take a lot of patience, however, if you keep calm and in control you will more likely see these behaviours reflected in the individual with brain injury.

It might help to circle the strategies that you think could be applied to your situation.

Remember you need to work together to better support brain injury!



Speed of information processing

The person may:

- take longer to complete tasks
- take longer to answer questions

You can:

- give them extra time
- speak clearly
- present only one thing at a time
- try not to interrupt or answer questions for them
- check that they are keeping up with the conversation

Difficulty following a sequence of events

The person may:

- have difficulty following instructions
- lose track of what they are thinking/doing
- get information mixed up or become confused

You can:

- keep activities and instructions short and simple
- ask specific or direct questions
- provide prompts to the next step in a task

Fatigue

The person may:

- get tired quickly
- have reduced tolerance and ability to cope
- become irritable easily

You can:

- encourage them to take rest breaks
- schedule more demanding tasks when they are at their best (often in the morning)
- keep activities short

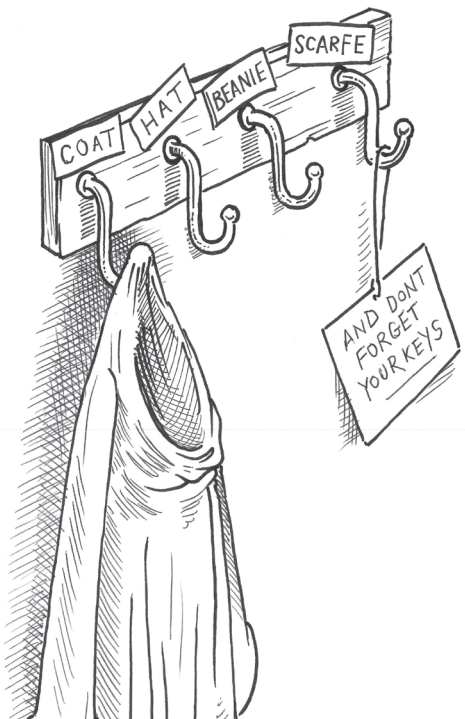
Attention

The person may:

- appear not to be listening
- miss details
- forget what people have said
- have difficulty concentrating
- be unable to cope with more than other thing at a time
- be easily distracted
- often change the subject
- get bored easily

You can:

- use short and simple sentences
- keep activities short
- ensure they write down important information
- encourage them to focus on one activity at a time
- reduce distractions (noise, other people)
- bring their focus back to task if they get distracted
- use different activities to maintain interest
- carefully select *when* you will ask for their attention (e.g. the time of day when they are most engaged)



Memory

The person may:

- have difficulty learning new things
- be forgetful (what people say, names, appointments)
- lose things
- have difficulty recalling what they have learnt

You can:

- repeat information as necessary
- encourage rehearsal of new information
- encourage them to use diaries, calendars, and timetables
- have ‘special places’ for belongings
- give reminders and prompts

Problem Solving

The person may:

- have difficulty working out solutions to problems
- be unable to generate new ideas

You can:

- help identify an achievable outcome for the task, making sure there is a purpose
- avoid giving open-ended tasks
- help them approach tasks in a more systematic way
- assist them to break tasks down into smaller components
- introduce one thing at a time – start simple

Reasoning

The person may:

- have rigid and concrete thinking
- take statements literally
- be unable to "put themselves in another's shoes"
- be resistant to change
- not understand complex emotions
- show poor judgment and decision-making skills

You can:

- use simple language and avoid abstract terms (e.g. using metaphors)
- explain changes in routine in advance, giving reasons
- if issues occur, think about timing and communication approach (e.g. talk about it later when they are calm)
- avoid using emotional undertones (e.g. say 'yes' but clearly mean 'no')

Flexibility

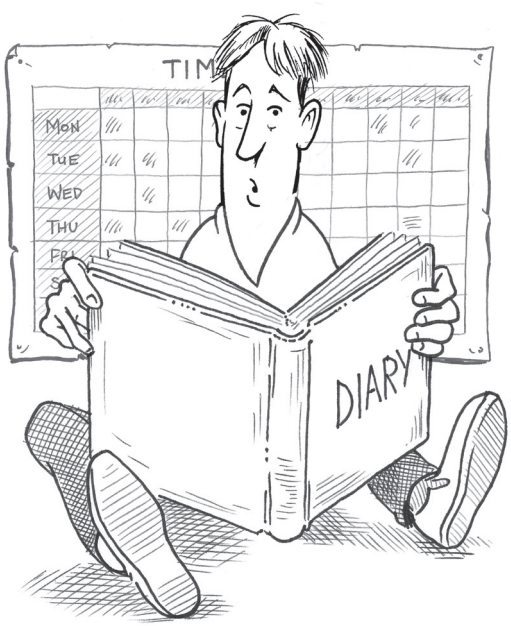
The person may:

- be unable to adapt to change
- become 'stuck in a rut' unable to develop new strategies
- persist with incorrect/ inefficient methods despite feedback
- repeatedly refer to the same topic or return to that topic

You can:

- help them to identify initial signs of frustration and recognise that this is a time to stop what they are doing
- provide alternative ways of completing a task so a choice is available
- direct them to another activity if they are continually making errors
- if they are talking off topic, direct them back to task by asking a specific question

Planning and organising



The person may:

- have difficulty preparing for a task
- be unable to work out the steps or sequences involved in a task
- not consider the consequences of their actions
- have difficulty organising their own thoughts and explaining things to others

You can:

- encourage them to consider what they are about to do before starting an activity
- provide a written structure or guideline outlining the steps in order
- give them prompts
- help them to develop a timetable (weekly/daily) to establish a routine
- keep the environment organised so things are always in the same place
- encourage them to take time to think about what they want to say

Insight

The person may:

- be unaware of their cognitive and physical limitations
- set unrealistic goals and expectations

You can:

- provide explanation why a proposed action (not their own plan) is useful, and reason through the steps (small steps, start gradually, etc.).
- help to identify realistic goals – these might be smaller components of a larger plan, but more achievable

Self-monitoring

The person may:

- often break rules
- not realise they have made errors because they have not checked their progress
- 'hog' conversations
- keep talking when others are no longer interested

You can:

- reinforce specific requirements of an activity
- encourage the person to check over how they have performed
- immediately provide feedback when errors occur or when they talk too much
- use signals, which have been agreed to in advance, to let them know when they are talking too much
- encourage turn-taking in conversations

Did you see any strategies here that might be helpful in your situation?

Reflect on how you currently support behavioural challenges, and how you may be able to apply some of these strategies.

LOOKING FORWARD

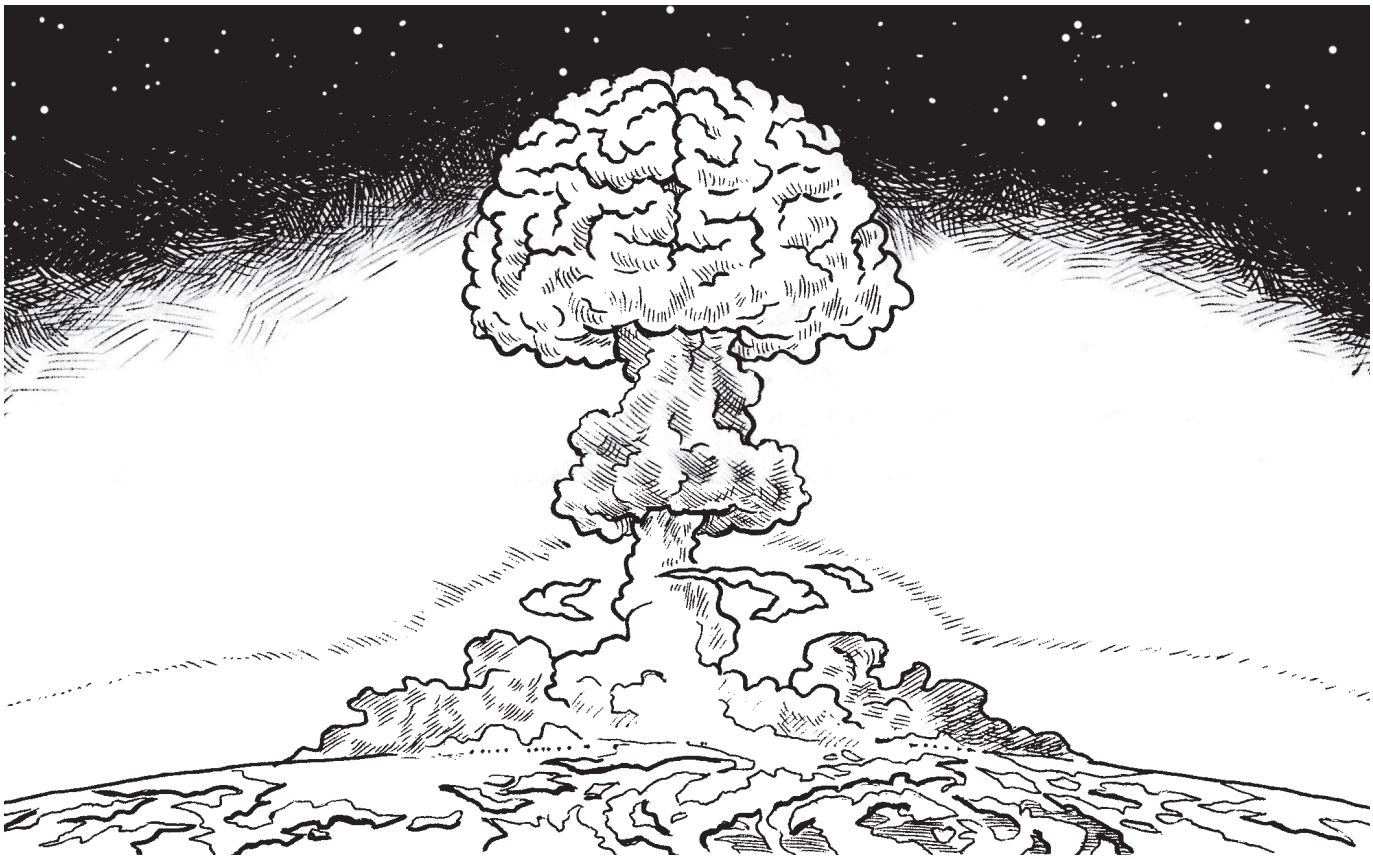
During this coming week (before completing Module 2), observe the challenging behaviours you have identified with consideration of neurological factors (changes to the brain – page 7 & 11) and reactive factors (changes to the individual's daily experience– page 8) discussed. Can you see how any of the information presented throughout this module relates to these behaviours?

Next week we will look at understanding anger, and the importance of observing and clearly defining challenging behaviours.

NOTES/QUESTIONS

Module 2

Understanding and responding to anger



Aims

During this session we will identify important factors in understanding and managing anger.

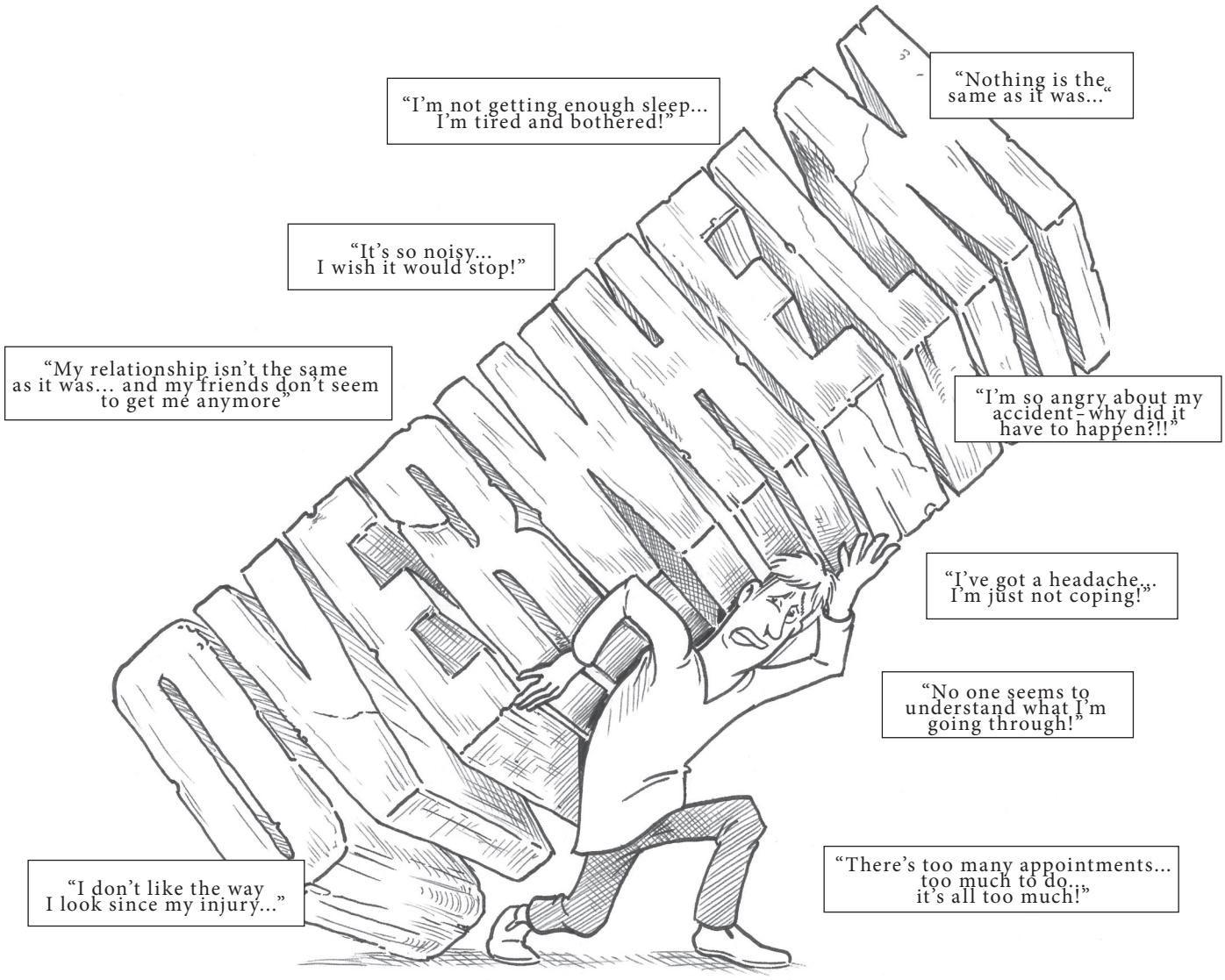
Outcomes

On completing this module you should be able to:

- identify early warning signals that an individual is becoming irritated/ angry
- recognise potential triggers of anger
- explain how your own behaviour can exacerbate a difficult situation
- understand the concept of ‘anger as a secondary feeling’

Why do people get 'angry' after brain injury?

Anger problems may be a direct result of the brain injury itself, but may also be triggered by other cognitive changes including reduced self-control, impulsivity and lowered frustration tolerance. Issues of sleep deprivation, pain, changed image, changed routine and feeling misunderstood, may also trigger anger problems.



It is important to be able to:

- identify potential triggers of anger
- identify 'early warning signals'
- recognise your feelings and
- have strategies for managing anger

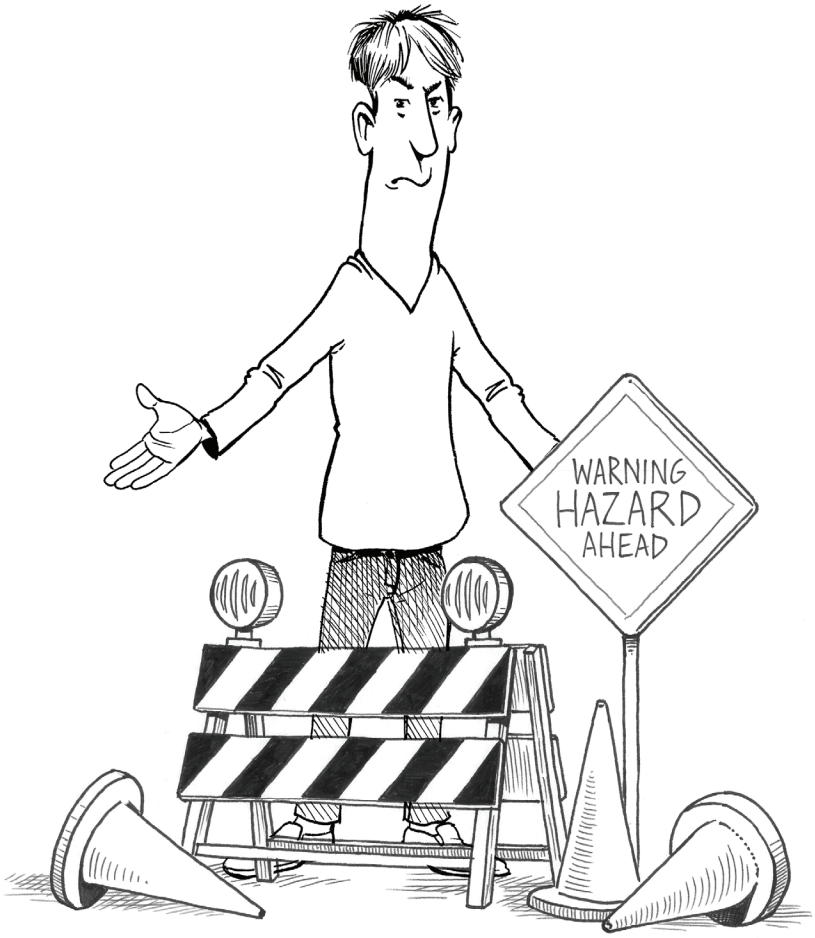
How do we identify the triggers?

Often visible changes occur as a person becomes angry (physical, emotional and/or cognitive). If we can identify these changes early enough (i.e. before the person loses their temper) we can use them as an 'early warning system'.

The following changes are often used as guideposts to alert a person that they are becoming angry.

Physical	Emotional	Cognitive
Muscle tension Temperature change Tremor/shaking Sweating Heart pounding Clenched fists	Irritated Frustrated Moody Unsettled Feeling upset	Changes to thoughts include: Racing Jumbled Irrational Jumping to conclusions

(TBI Staff Training: Martin, 2011)



Does your family member with brain injury experience challenging anger behaviour(s)? Can you identify any triggers or 'early warning' signs (physical, emotional, cognitive)?

Anger might be a secondary feeling

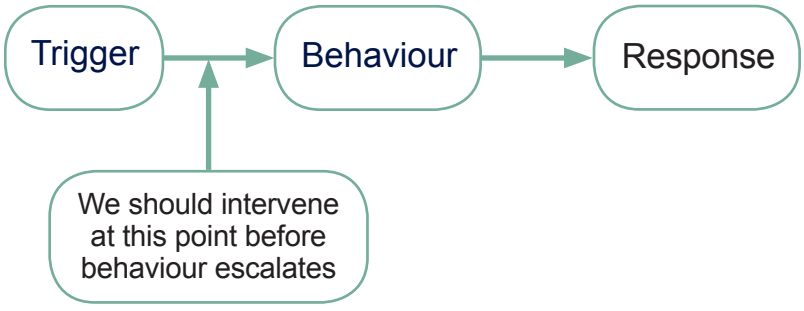
Anger can be a secondary feeling, and if so, dealing with the initial feelings may eliminate the 'anger response'.

Pain
Frustration
Disappointment
Fear/ anxiety
Fatigue
Guilt
Embarrassment
Humiliation

} Anger

When thinking about how people with brain injury can change from being calm to being angry or aggressive it is useful to think about triggers and responses.

A trigger is something that causes a reaction in the person (behaviour), and the response refers to the reaction to the behaviour.



First check that you are in the right head space to intervene

Can you identify triggers of anger in your situation? And how you/or others respond to this behaviour?

Triggers:	Behaviour	Responses:
e.g. being asked to have a bath	→	e.g. let him keep watching t.v. and try asking again in the morning

If you can't think of any right now, don't worry. Perhaps this week you can try identify some of the triggers and responses to behaviours and fill this out then.

It is also important to recognise YOUR Feelings

Remember that the behaviour is not necessarily directed at you.

Why you?
Proximity (you are the closest person to them)

What are you feeling?
It is important to recognise and identify your feelings

How do you feel when your loved one becomes angry (if applicable)?

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What should you do about your feelings…?

- Accept your own feelings about the situation
- Talk to family, staff and friends and discuss how you are feeling
- Recognise that you are only human and that you can also be affected by stress, frustration and anger
- Use stress and anger management strategies yourself

How do we manage anger problems?

In any difficult situation it is important to maintain focus on the underlying issues, not the behaviour.

Below is a more comprehensive list of strategies for managing a situation that is escalating. These strategies place importance on:

- remaining calm
- walking away/removing yourself from situations temporarily (if safe/appropriate to do so) to regain composure
- using non-threatening/relaxed body language and tone
- taking slow deep breaths/using a deep breathing technique
- discontinuing a conversation/discussion that is causing a negative emotional reaction in you or the person
- avoiding making the problem worse with the use of alcohol or drugs to 'cope'

What if the behaviour is escalating...?

a) Keep calm and in control of yourself

- Avoid mirroring behaviour (e.g. yelling in response to someone being verbally aggressive)
- Controlled breathing (take deep slow breaths)
- Control voice (speak with a calm tone)
- Use non-intimidating body language

b) Maintain a safe distance

- Make sure you are standing outside of hitting and kicking distance (approximately 1 metre away from the person)

c) Use non-confrontational body language

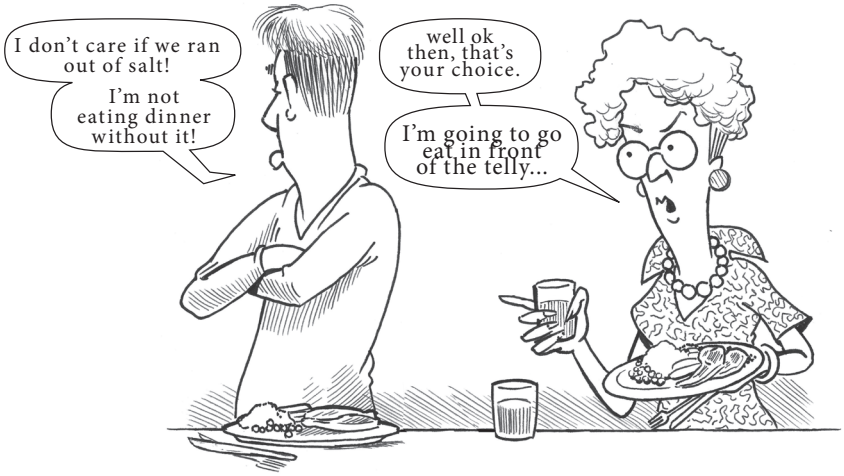
- Keep hands open and in full view
- Stand slightly at an angle to the person
- Avoid staring or standing with your hands on your hips
- Avoid making fast movements

d) Think about the situation

- Is there anything reinforcing the behaviour? (e.g. things in the environment or responses to the behaviour)
- Is there anything frightening the person?
- Is there anything frustrating the person? do they have any unmet needs?
- Are they being over or under stimulated?

e) Decide on an intervention (how to respond to behaviour)

This might include negotiation, leaving, no action, surprise, distraction, humour, isolating individual, removal of other people from situation, asking for help and self defense (only to be used if under attack / as a last resort)



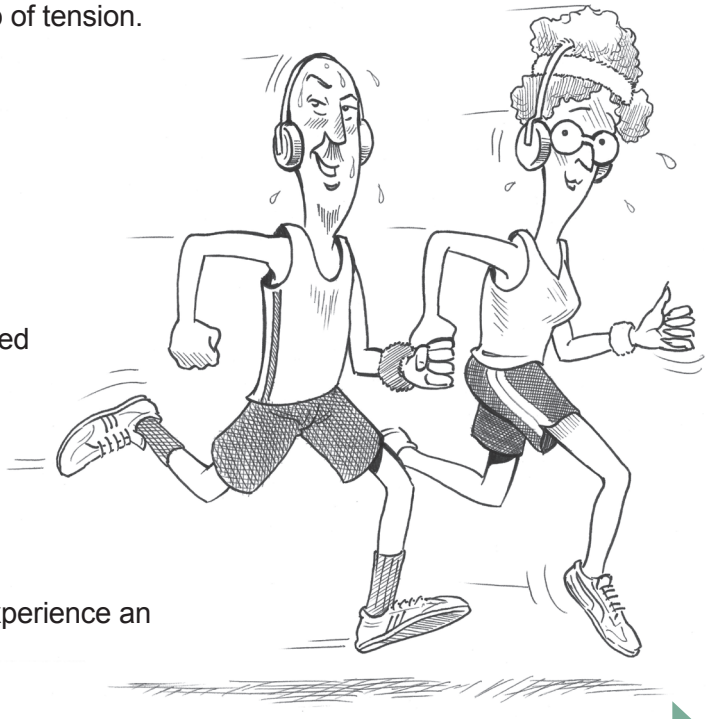
f) Is the intervention working? Decide on the next step

- If the intervention is not working, you might decide to modify or change your response (for example, if you try to negotiate without success you might feel it is best to remove yourself from the situation).

g) Managing after a crisis

The body's normal reaction to stress is a build up of tension. Tension can be released by:

- relaxation / breathing techniques
- physical activity (physical release)
- talking, laughter, crying (emotional release)



<u>Things to avoid</u>

- Self-administering drugs/ overuse of prescribed medication
- Using alcohol, caffeine or cigarettes
- comfort eating

<u>Things to remember</u>

- After any crisis, it is normal for a person to experience an emotional or physical change
- don't label yourself as crazy
- avoid making life-altering decisions within a few weeks of the crisis

LOOKING FORWARD

During this coming week, try and keep these support strategies in mind and think about the way you are responding to anger behaviours. Can you see how any of the information presented throughout this module relates to your situation?

NOTES/QUESTIONS

Module 3

Observing and defining behaviours

Aim

During this session we will discuss the importance of observing and recording behaviours.

Outcomes

On completing this module you should be able to:

- understand the importance of clearly defining challenging behaviours
- know what to be looking for when observing behaviours
- describe the behaviours you identified in Module 1 in observable terms

Analysing challenging behaviours... where to start?

When analysing challenging behaviour, we need to think about the following:

- When does it occur?
- Where does it occur?
- Who does the behaviour occur with?
- Does it start suddenly or build up gradually?
- How long does it last?
- What is the history of the problem?
- What solutions have been tried in the past?
- Ho are people reacting?

(TBI Staff Training Kit: Martin, 2011)

You might already be able to answer some of these questions…

Have you noticed any patterns around when the behaviours (that you identified in Module 1) occur? Do they occur during a particular time or in a particular location? Do they only occur around particular people?

(Don't panic if you can't answer these questions… we are just getting you thinking! We will look out for these things when we start recording behaviours)

We also need to think about:

- environmental factors (e.g. excess noise, overcrowding, appropriateness of environment)
- is the individual treated with respect? Do they have choices?
- are they able to communicate effectively?
- would they benefit from being taught coping skills (e.g. relaxation etc)?

Many of these factors can be recorded through careful observation of the individual. This may reveal patterns of when the behaviours are most likely to occur, in which environment, and in whose company.

If possible, you should also make contact with others who may have been involved in managing challenging behaviour in your loved one (other family members and/or service providers), and find out what strategies have been tried in the past, and what did or didn't work.

So, what is the challenging behaviour?

Before planning an intervention, we need to clearly define the behaviour we want to target. An accurate and objective picture (not influenced by personal opinion) of the behaviour is best obtained by careful observation and recording.

A clear definition of the behaviour should be recorded in observable terms (exactly what you see).

Not helpful	Helpful
"Bill had an aggressive outburst"	"Bill punched his brother on the cheek with a closed fist"
"John was sexually inappropriate"	"John touched the breast of a female support worker"

When recording behaviours we should avoid ambiguous terms, such as "aggressive", "sexually inappropriate", or "disinhibited". This will ensure agreement as to the exact nature of the behaviour, leaving no room for interpretation.

Consider the following example:

Nathan was eating dinner at the dining room table. He bit his tongue and suddenly turned and grabbed the arm of his mother who was sitting next to him. His nails caused minor bleeding and the force of this action caused significant bruising.

What would best describe this behaviour?

a) Nathan became aggressive towards his mother.

b) Nathan firmly grabbed his mother's forearm, causing minor bleeding and bruising.

Remember, it is important to describe behaviour clearly, leaving no room for interpretation.The answer (a) above is too ambiguous, stating Nathan's general mood, without explicitly stating what behaviour occurred.

Consider the behaviours you identified in Module 1: are these behaviours clearly defined? If not, try and think of a situation when these behaviours occurred, and describe them in observable terms.

You may need to observe these behaviours again to check that your description is accurate. If an episode of challenging behaviour has variations (e.g. sometimes the individual pulls their hair violently and kicks nearby objects, and at other times pulls their hair violently and then throws nearby objects), make sure you state this clearly.

Now you have a clear definition of the target behaviour, the next step is to record all instances of this behaviour (whenever it occurs) over a specific period, such as a day or week.

This will be your activity next week, so don't get overwhelmed by this now! We will discuss the importance of observing behaviours in Module 4, as it is important that you understand why you are being asked to do this.

NOTES/QUESTIONS

Module 4

Analysis… what it all means.

Aim

During this module we will discuss antecedents (what happens directly before a behaviour occurs) and consequences (what happens directly after a behaviour occurs), and start identifying whether challenging behaviours are being reinforced.

Outcomes

On completing this module you should be able to:

- start analysing behaviours by examining the role of antecedents and consequences
- be able to identify possible triggers of target behaviours

What is the purpose of the behaviour...? Why does it occur?

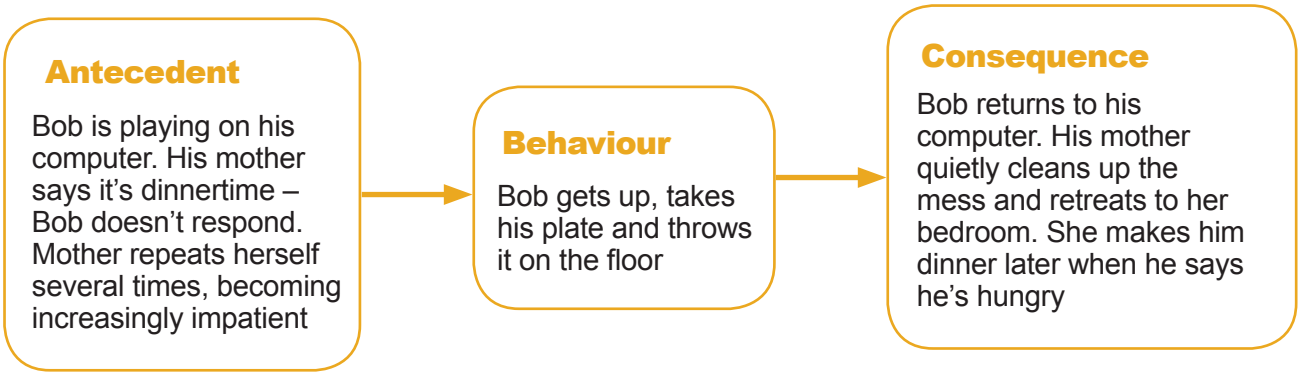
Throughout this module we will identify the function ('purpose') of the behaviour you have identified, and other reasons why the behaviour might be occurring. This might include antecedents and consequences.

Antecedents refer to what happens directly before the behaviour occurs, triggering a response. For example, you might observe that directly before the behaviour occurred there was a transition to a new activity. This 'transition phase', which might involve the individual being asked to change activities, would be referred to as the 'antecedent'.

By identifying the antecedent we can sometimes see what type of replacement behaviour may be appropriate. For example, if an individual becomes aggressive each time they are asked to try something new, it might be appropriate to teach them how to verbalise their concerns/ fears.

> Antecedents are very important when designing interventions for people with brain injury, as individuals often have challenges in understanding and processing information.

Consequences refer to what happens directly after the behaviour has occurred. So, for example, Jane receives a phone call from her friend who says she can no longer come over for dinner (antecedent), Jane then becomes upset and begins crying and bangs her head against the wall (behaviour), which is followed by her mother giving her a hug and offering to take her out to her favourite restaurant instead. Jane calms down and is happy with this alternative (consequence). Also see the example below.



In this situation, the behaviour appears to serve an important function: to avoid having to stop playing his computer to have dinner. Its function in this situation is successful.

Identifying the 'function' of challenging behaviours is not always so easy; however, this example helps us to start thinking of behaviours as having a purpose.

Once we can identify the desired function of a particular behaviour, we can start looking at what might be reinforcing the behaviour. We may also see what more acceptable behaviours might serve the same purpose (e.g. an individual starts yelling when he gets bored, which results in a caregiver's attention the individual learns skills to request attention or change of activity without yelling).

This is an important first step in developing an effective behaviour support strategy.

Let's consider the different functions of behaviour below:

Behaviour

- Attention
- Access to items
  - objects, places, activities, etc.
- Escape
  - from a person, setting, activity, demand, etc.
- Avoidance
  - of a person, setting, activity, demand, etc.
- Automatic reinforcement
  - behaviour itself is reinforcing (e.g. gaining particular sensory stimuli)

The two main causes of challenging behaviours after brain injury are:

1. Difficulty controlling (self-regulating) behaviour due to the direct result of a persons brain injury (e.g., reduced tolerance)
2. A learned response, which has been reinforced in a person's environment (e.g., If I yell I get what I want).

These factors will be discussed further in the following Modules.

Let's identify the antecedent, the behaviour, and the consequence in the following example:

Before her stroke, Jessica was a very good cook. She is still able to complete basic tasks in the kitchen but she now finds it difficult to get started. Her mother visits daily to assist her with everyday tasks such as cooking, cleaning and showering. Jessica's mother has particular difficulty getting her to help prepare dinner. One night, when her mother asked Jessica to peel the potatoes for her dinner, she swore at her and threw a potato across the room. Her mother became very upset and didn't know what to say to Jessica, so continued to peal the potatoes herself.

Antecedent:	Jessica's mother has asked Jessica to peel potatoes for her dinner
Behaviour:	Jessica swears at her and throws the potato across the room
Consequence:	Jessica's mother finishes peeling the potatoes

Relevant information: Jessica is quite capable of doing this task but has poor motivation. Her mother is less likely to ask Jessica to do tasks. Jessica learns that she can avoid tasks by swearing and throwing objects.

Would you agree with the information presented here?

Let's now consider the following example.

Can you identify the antecedent, the behaviour, and the consequence?

Bill, aged 50 years, sustained a brain injury when he fell off a ladder while pruning trees in his garden. He lives at home with his wife Kate and they have a small group of friends who they see regularly. Since his injury, Bill does not like to visit friends as much, while Kate still enjoys socialising. On one occasion when they were invited to a friend's house for a BBQ, Kate and Bill had an argument due to Bill's reluctance to attend. Kate insisted that they go as she felt she needed to get out and talk to other people. During the course of the BBQ, Bill started to make inappropriate comments about their sex life. Kate was horrified and quickly made an excuse for them to leave early.

Antecedent: .....

.....

Behaviour: .....

.....

Consequence .....

.....

Once you have completed this activity, you can look at the suggested answers on the following page. If you do not feel confident in identifying antecedents, behaviours and consequences, please discuss this with the Program Facilitator.

Suggested answers – Identifying the antecedent, behaviour and consequence for Bill

Antecedent:	Kate is talking to their friends at the party and enjoying herself
Behaviour:	Bill begins to make comments about their sex life
Consequence:	Kate makes an excuse for them to go home early

Relevant information: Bill did not feel like visiting their friends; he wanted to stay home with Kate.

Kate may become reluctant to visit friends with Bill and goes out less often herself. Bill learns he can spend more time at home with Kate and avoid seeing friends by talking about their sex life in public.

It is not always easy to identify what triggers behaviours, which highlights the importance of recording your observations. This will often show a pattern in behaviours, and possible triggers.

What to observe?

When observing behaviours it is important to take note of:

- the environment/ setting
- time
- who was present
- the antecedents and consequences (is something reinforcing the behaviour?)

This will be discussed in more depth in the following modules.

An Observation Sheet has been attached (page 45). This week, we will be using this checklist to identify when your identified behaviour/s are occurring.

LOOKING FORWARD

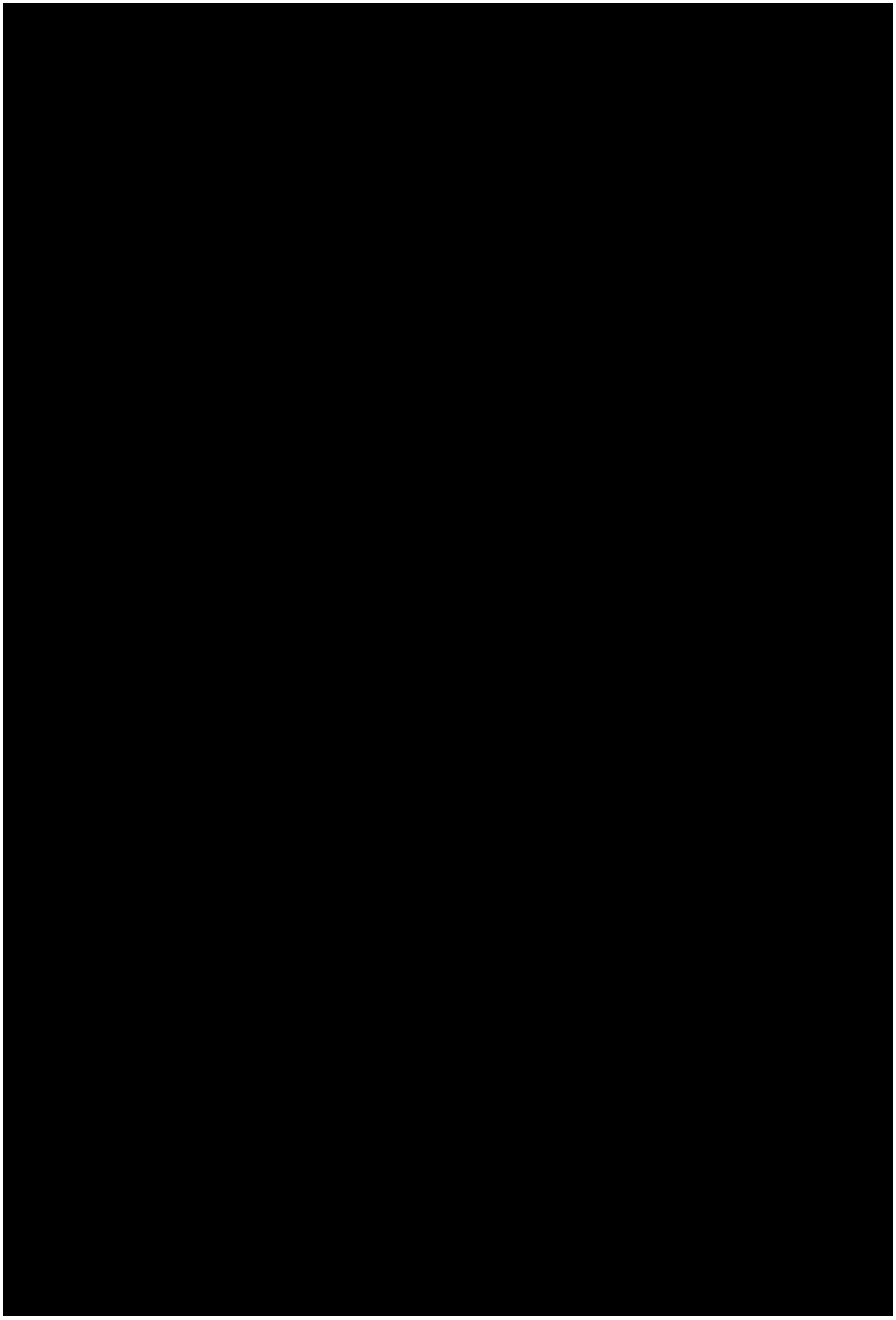
During this coming week, use the Observation Sheet on page 45 to observe the target behaviour you identified in Module 1. Remember to record the Antecedents, Behaviours, and Consequences in objective and observable terms (exactly how you see them). Use the following table to work out how long you should observe your target behaviour.

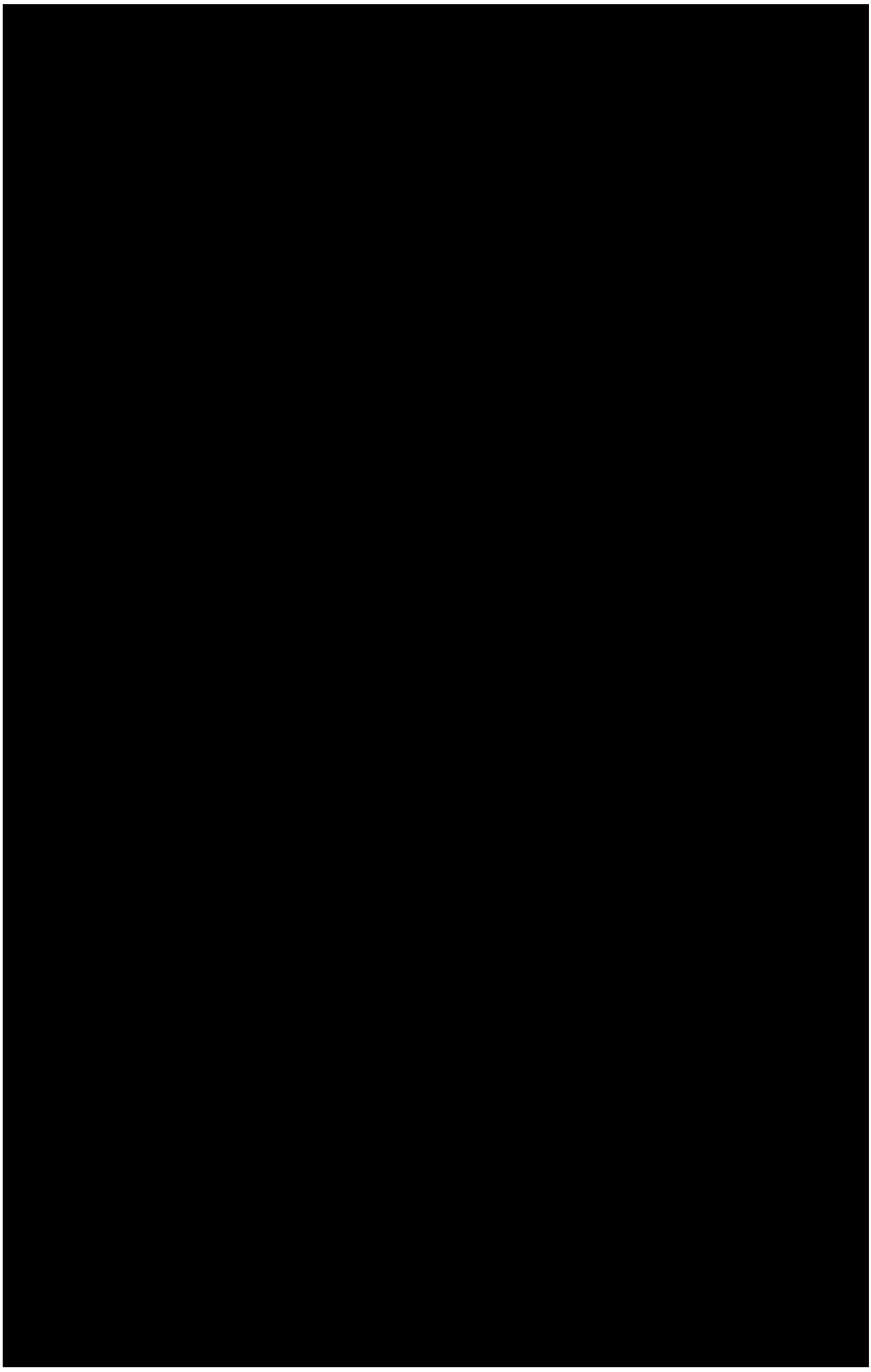
Approximately how often does the behaviour occur?	Observe the behaviour over the following time periods:
Several times a day	1 day
A couple times a day	3 days
A few times a week	1 -2 weeks
A couple times a week	2 weeks

For the purpose of this activity (and due to time limitations) it is best to choose a behaviour that happens often, so you get the opportunity to record a number of instances before we catch up next week.

During the next module we will also discuss the importance of routine. Please record your family member's current routine using the form on page 46. Don't panic if there are gaps in their weekly schedule, just fill it out as accurately as possible - we will be looking at this during our individual sessions.

NOTES/QUESTIONS





LOOKING BACK

You should now have a basic understanding of why challenging behaviours may occur.

So, *now what*?

Hopefully, your observations (using the Observation Sheet) will reveal some patterns in your target behaviour, including similar times/settings when the behaviours occur, and perhaps consistent consequences that also may play a part in reinforcing the behaviour.

Can you identify patterns in the target behaviour or possible triggers (after completing your observations)?

In Module 5 we will discuss the importance of improving the environment (antecedent strategies) in behaviour support interventions for people with brain injury. We will also start identifying what strategies might work for you.

Make sure you take note of any questions you have, as sometimes behaviour support strategies sound more difficult than they really are.

IMPORTANT NOTE
If you are being confronted with high-risk behaviours, where the behaviour is presenting danger to you or your loved one with ABI, please seek help immediately

Domestic Violence Helpline (24 hours):1800 800 098
Call Lifeline (24 hours): 13 11 14
Crisis Care (4pm-9am): 13 16 11
CRANA Confidential Support Line (for rural families) (24 hours): 1800 805 391

Module 5

Improving the environment (antecedent strategies)

Aim

During this module we will discuss the importance of creating a positive environment (antecedent strategies) to support behavioural changes following brain injury.

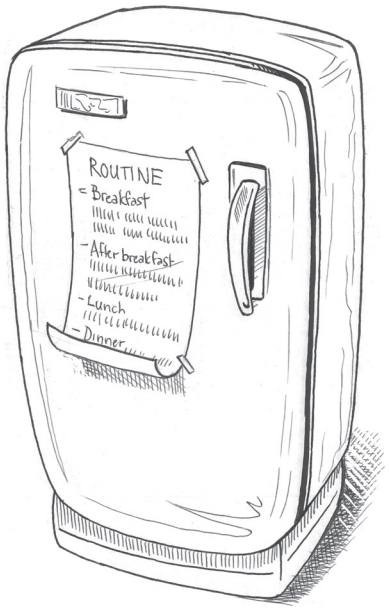
Outcomes

On completing this module you should be able to:

- understand the importance of creating a positive environment for your family member with brain injury, including environment changes, routines and meaningful activities
- start thinking about why your identified challenging behaviours are occurring and what antecedent strategies might be helpful

As discussed in previous modules, people with brain injury often face difficulty with information processing. It is for this reason that antecedent strategies (e.g., environmental changes and identifying warning signals/ triggers) are critical to behaviour management interventions for people with brain injury.

There are some basic antecedent strategies that can be helpful in creating a positive setting for your family member with brain injury. These strategies focus on creating a positive and organised environment – you may find by making small changes to your environment, challenging behaviours will decrease.



Environmental changes

During previous modules we have discussed the importance of an organised and structured environment following brain injury. An individual may find it difficult to transition from the structured hospital setting to the less structured home environment due to cognitive changes. Environmental modifications may also be required due to physical changes resulting from the brain injury.

Your observations may reveal a close link between challenging behaviours and environmental factors (e.g. frustration using particular door handles, or never knowing where the sugar bowl is!). These behaviours can often be resolved by making sure the environment is organised (having specific places for belongings and labeling cupboards) and appropriate to the person's physical abilities.

Even if you do not feel challenging behaviours are directly linked with environmental factors, it is likely that creating an appropriate and organised environment will result in positive outcomes for the individual. Rather than expending their cognitive energy trying to make sense of their surroundings, they can use it to focus on other tasks at hand.

Can you think of how you might make your environment more organised/ structured to suit the needs of your family member with brain injury?

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Routine

Routines are important for a person with brain injury. Following brain injury a person may have difficulty starting activities, planning how to do them, and maintaining concentration. Routines can help to prompt the person with brain injury with what needs to be done and in what order. Routines are also helpful if the individual has difficulty transitioning from one activity to the next.

Routine can give the individual with a brain injury a sense of control over his or her life.

Developing a routine allows your family member with brain injury and you, their caregiver, the opportunity to look at their weekly schedule and make sure activities are appropriate and reflect their interests. When you record their current routine, you might notice that there are certain parts of the week when there are no activities scheduled, which may directly relate to the occurrence of challenging behaviours.

Remember, it is important that the individual with brain injury helps in setting up their weekly routine, and choosing what activities/tasks should be included.

STRUCTURE and ROUTINE are the keys to independent functioning and success following brain injury.

How to set up a routine

Depending on the physical and cognitive abilities of your family member with brain injury, assistance may be needed with setting up a routine. It is important to first look at his or her current daily/weekly schedule and to incorporate their preferred routine – e.g. what time do they usually get out of bed? Do they like to have their shower before or after breakfast?

It is useful to have the routine displayed somewhere central (e.g. the fridge or dining room wall). You could laminate a large table (like the one on page 52) and use a white board marker to fill in the daily/weekly activities. This also enables you to make changes where necessary. You could also write your daily routine directly on to the fridge or window with a white board marker!

Look at your family member's current routine on page 46. Is there anything that surprises/ concerns you? Can you think of how their routine might be adapted to better suit their needs? It might be helpful to develop a new routine using the table on page 52.

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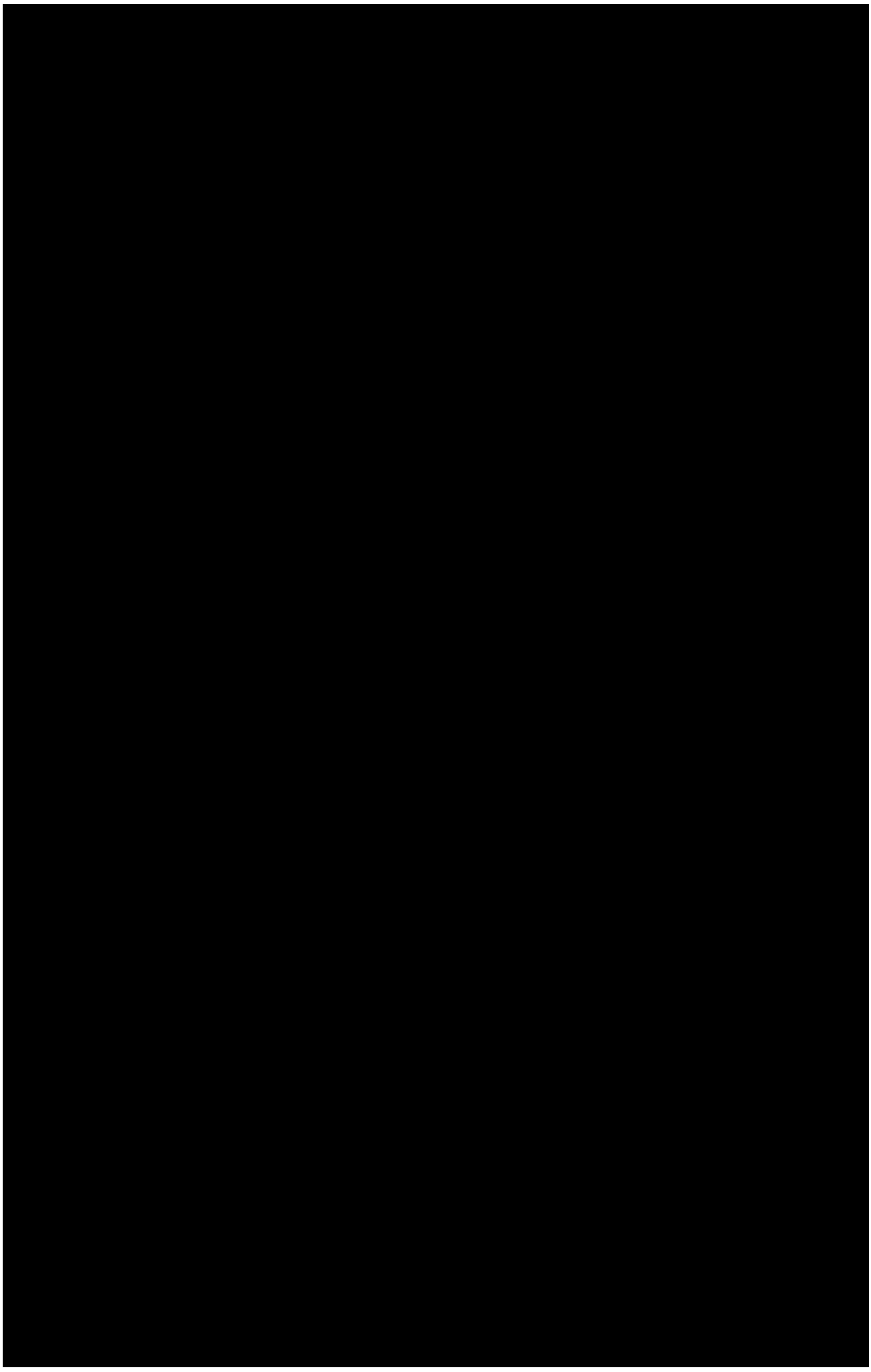

Meaningful activities

So, how does this relate to behaviour support? Consider, how do you feel when you are doing something that you are enjoying or something that gives you a sense of purpose? Now compare that with how you feel when you do something out of obligation, or feel bored and uninspired by what you are doing or by your surroundings.

People who are engaged in meaningful activities are going to feel more positive, and when we are feeling positive, this is more likely to be reflected in our behaviour. Likewise, if we feel a sense of purpose or responsibility, we will feel more important and valued by others.

It is therefore important that meaningful activities are incorporated into the individual's routine. If an individual feels good about their routine, they will be more likely to cooperate when they are required to do necessary but less desired activities (e.g., showering, brushing teeth, dishes etc.).

It might help to consider the following questions:

What are the individual's interests? What do they like/dislike?

What are their strengths? What are they good at?

When do they seem most engaged?

Can you think of any meaningful activities that could be incorporated into your family member's weekly routine?

Consistency

In this context, consistency refers to all caregivers and family members having an agreed response to challenging behaviours and maintaining a structured environment. This is very important when implementing behaviour management strategies.

It is not always easy to maintain consistency within your homes. However, consider these two guidelines:

- responses following challenging behaviours (e.g. ignoring – discussed below) should be consistent amongst caregivers. If caregivers respond differently to target behaviours this will be confusing for the individual, and behaviour management strategies will most likely be ineffective.
- if you decide on specific places for belongings, it is important that all caregivers are aware of this system and understand the importance of maintaining an organised environment following brain injury.

Let's consider the following example:

Andrew, 43 years of age, sustained a brain injury when he was hit by a car ten years earlier. He lives at home with his mother, Margret, and their pet dog, Alby. Andrew used to work as a graphic designer, but was unable to continue with this work due to cognitive changes following his brain injury.

Since his injury, Andrew has had difficulty with his short-term memory and relies on regular verbal prompts from his mother to complete daily activities. He would also become frustrated easily when he couldn't remember what he was talking about, locate items, or when things didn't go to plan. When this happened, Andrew would accuse his mother of hiding things from him, and become short-tempered, often throwing objects out of frustration.

It was suggested that Margret develop a daily routine with Andrew to display on the wall next to the clock, to help remind Andrew what activities were planned for the day. This routine included daily activities such as 'have breakfast', 'wash dishes' and 'brush teeth'. The process of developing a routine dramatically improved both Andrew and Margret's quality of life. Margret realised that much of Andrew's time was taken up with household activities and watching t.v, so they sat down together and discussed what it was that Andrew enjoyed doing. He said he would like to take Alby to the park and that he wanted to work on his computer.

Andrew's new routine included him walking Alby to the park three times a week, and spending time using a graphic design program (that Margret was able to obtain through his previous colleagues). Margret also labeled the clothes draws in his bedroom, and cupboards in the kitchen. This has helped Andrew locate items.

Andrew now independently carries out his morning routine, and prompts Margret that it is time to walk Alby to the park. Margret says Andrew seems more positive and in control. She has more time for herself and feels comfortable leaving the house in the mornings now that Andrew is confident with his daily activities. Andrew likes this added responsibility and independence.

Andrew rarely becomes frustrated anymore, but when he shows the early warning signs (irritability and swearing), Margret leaves the room and ignores this behaviour. When Andrew's sister visits, she is aware of the new systems in the house and also ignores these behaviours. Now when Andrew becomes frustrated he will often mumble to himself, but rarely directs his anger towards others.

Now let's apply the information we have covered so far to the following example:

Tim is a 21-year-old carpenter. He lives with his mother and father, and his German Shepherd dog, who he adores. Tim was a passenger in a motor vehicle accident. Neuropsychological assessment indicated an overall lowering of functioning, with mild learning/ memory problems, poor planning and poor problem solving skills. His attention and concentration were also below average.

Tim denies having any hobbies, but reported that he used to play indoor cricket on a regular basis. His other interests included rally cars and 'clubbing' with his mates.

Tim spent some time in the acute rehabilitation ward in hospital before transferring home to live with his mother and father. Tim frequently sits alone and appears lethargic. He occasionally becomes argumentative when prompted by his parents to attend appointments and social activities, and often retreats to his room. If his parents would allow it, he would prefer to lie in bed all day.

Questions

What is the main problem?

What do you want the outcome to be?

Is there anything currently reinforcing this behaviour?

What potential reinforcers are available to you?

How might you support this behaviour?

Are there other issues you need to consider?

LOOKING FORWARD

During the coming week, observe challenging behaviour(s) with these antecedent strategies in mind (environmental changes, routine, meaningful activites & consistency) – do you think any of these might be helpful? You may already be able to apply some of these to your situation…

Throughout this workbook we have emphasised the use of antecedent strategies, focusing on a 'proactive' rather than 'reactive' approach. However, sometimes brain injury does not result in difficulties with information processing and memory, and hence contingencies can also play an important role in behaviour support interventions. However, even though some people with brain injury can be expected to be able to learn from consequences just as effectively as those without brain injuries, it is still important to create a positive environment. Positive behaviours should be greeted with encouragement and praise, and challenging behaviours should be greeted with efforts to help the person succeed rather than with punishment, which only tends to breed more failure.

In Module 6 we will discuss a variety of strategies that may be helpful in reinforcing desired behaviours. We will then start identifying what strategies might work for you.

NOTES/QUESTIONS

Module 6

Reinforcing desired behaviours

Aim

During this module we will introduce some basic behaviour support interventions. These strategies can be used individually or in combination with other approaches as part of a more comprehensive behaviour support program.

Outcomes

On completing this module you should be able to understand and apply one or more of the following behaviour management procedures:

- Positive Reinforcement
- Extinction
- Differential Reinforcement
- Overcorrection

Module adapted from Jacobs (1995)

Supporting behavioural challenges

Each case and challenge is unique and requires its own individualised approach. Not all individuals with brain injury – even those with similar challenges – will have the same response to the same approach. When appropriate to the situation, some of the behavioural procedures presented throughout this module may be useful. These procedures can be used to maintain or increase particular behaviours, or decrease behaviours.

Please note that these contingency strategies should only be used with individuals who do not have difficulties with information processing and memory.

Try not to get overwhelmed by these procedures – they often sound more difficult than they really are! Make sure you take note of any questions you have so we can discuss these when we meet to develop your individualised behaviour support plan.

Positive Reinforcement

This is helpful when the aim is to maintain or increase behaviour. A positive reinforcer (reward) is presented immediately following the desired behaviour so the person will see the consequence of the behaviour as something positive. This results in the increased likelihood of this behaviour occurring in the future. Positive reinforcement can be tangible (If I work hard, I will get a raise) or social (praise or smile).

Example: Ted's mother cooked him dinner every evening. She wanted him to be more helpful with cleaning up after the meal. She made a point of praising him every time he took his plate to the sink (after prompting). As a result, Ted started taking all of the dirty dishes to the kitchen. He is now responsible for cleaning the table after mealtimes and doing the dishes.

Description:

Positive reinforcement is one of the most basic, effective, and easy-to-use behaviour support strategies for increasing desired behaviour. It is also one of the most popular procedures because it focuses on what a person is doing correctly rather than incorrectly.

The concept is simple: each time the person engages in the desired behaviour, you reward them, which increases the likelihood of this behaviour occurring again in the future. However, using this strategy requires attention to detail.

A reinforcer (reward) is most commonly, but not always, what the person likes, or what someone else thinks the person “should” like. For example, although a person may like chocolate, a block of chocolate is unlikely to be an appropriate reinforcer for someone who is trying to lose weight, or who has just eaten a large meal.

Sometimes the most preferred consequence may not be appropriate for use as a reinforcer. It may be too costly, inaccessible, or illegal. There are, however, many things that can act as reinforcers, including verbal feedback, praise, money, points, and so on. The opportunity to participate in preferred activities can also be an effective reward for doing less preferred activities. For example, we may be willing to clean out the shed if we can then go finishing, or eat our vegetables to get dessert.

> Example: *Erik liked to go to the cafe but refused to walk there. Telling him that he could go to the cafe whenever he walked there meant he got his desired trips to the café, but also the exercise that he needed.*

Perhaps the most effective and most often overlooked reinforcers are verbal praise and attention. Think of how much we do for just a smile or some other form of acknowledgment from someone who is important to us. It is also important to note that what may be effective with one behaviour in one setting may not work in another.

It is also important for the value of the reinforcer to be equal to the effort that is required to perform the behaviour. A reward that is not worth the effort is unlikely to be an effective reinforcer. Would you mow the entire lawn and do all the weeding on Saturday for a dollar? How about for a thousand dollars? Finding a happy medium or balance between the value of the reinforcement and the behavioural effort is a skill that develops with time and experience.

What do you think would make effective reinforcers for your family member with brain injury?

It is important to have control of the accessibility of the reinforcer. If the reinforcer is readily available to the person, it is unlikely that it will have much effect on the behaviour. For example, using crackers (food) as a reinforcer for putting the dishes away is unlikely to be very motivating after eating dinner. Using tokens that can be exchanged for time watching television, is also unlikely to be effective if the person has unrestricted access to his or her own television. It is also important that the reinforcer is age appropriate.

Example: *Jason's mother could not understand why her token system was not working. She gave points to Jason when he helped with chores around the house that could be exchanged for dvds in the evening. However, Jason wasn't interested. It turned out that his mother selected "family style" movies to be watched by her 20-year-old son with significant frontal lobe damage and different interests. Jason could watch these "family style" programs on regular television at any time. He preferred more mature entertainment.*

Controlling the accessibility of reinforces presents important ethical issues. For example, it is blatantly unethical (and illegal) to deprive people of the basic elements required for life, such as water, food, clothing, shelter, and contact with others. However, these things are powerful motivators for all of us, so when used in any behaviour management plan should be carefully monitored and only used in a manner that does not violate personal rights and dignity.

For example, you may use certain types of food, such as special treats, or type of meals as reinforcers. You might also use food as a reinforcer during the early afternoon, between meals, rather than delaying an individual's lunch.

Finally, reinforcers may stop working. Too much of a good thing can be a problem, as it may no longer be an effective reinforcer. It is then important to think about the amount of reinforcer to provide following the desired behaviour.

It is also important to identify reinforcers that can be used within your natural environment, as they will be available and appropriate to the behaviour. In some situations, the changes in the person's behaviour will determine his or her own reinforcement. For example, although you may use praise and rewards to motivate a person to begin to walk again (considering the pain and confusion associated with this process), once they are able to walk, the ability to get around and access activities may be enough to maintain this behaviour.

When and how often do you reinforce the behaviour?

Generally, it is recommended that you reinforce (reward) the desired behaviour every time it occurs. However, once the behaviour is well established it is not necessary to reinforce it every time.

It is important that you reward the behaviour as soon as you can after it has occurred. If you wait for too long, other behaviours might occur in the meantime, and it may not be clear to the person exactly what behaviour is being reinforced.

Please note: Positive Reinforcement interventions that address *high-risk behaviours* should only be implemented by specially trained professionals.

When designing a Positive Reinforcement Program you should:

1. Identify the specific behaviour you want to target. The more specifically the behaviour is defined, the more focused the intervention can be.
2. State how often the behaviour currently occurs, so you can monitor whether the program is working or not
3. Consider other behaviour management techniques – do you think that positive reinforcement is the most appropriate procedure for the target behaviour?
4. Select a reinforcer (reward) that:
   a) is "equal in value" to the behaviour to be reinforced
   b) is readily accessible to you but not the individual
   c) appears to be of interest to the individual
5. Carefully monitor the persons progress – is behaviour improving? Is the reinforcer still working effectively?

Example: Sally's mother tried to encourage Sally to chew with her mouth closed, but she had been unsuccessful. Sally really liked cats, so her mother set up a program in which they talked about cats during mealtimes as long as Sally kept her mouth closed while eating. When Sally opened her mouth, the conversation stopped and only continued when she closed her mouth again. As a result, Sally now chews her food with her mouth closed 95% of the time, compared to 30% of the time before the intervention

Activity

How might you use a positive reinforcement procedure in the following situation?

Graham, 18 years-old, lives with his mother. His mother does most of the housework and house maintenance, and it was agreed that Graham would be responsible for watering the garden. However, he regularly forgets, and because he leaves for work early in the morning, his mum often ends up doing the watering for him. She has tried prompting him in the evening and in the morning before work, but this has not been successful. In Graham's spare time he loves watching soccer, playing soccer and skateboarding. He is very active and enjoys socialising with his friends.

NOTES/QUESTIONS

Extinction

This is helpful when the aim is to reduce a behaviour. Extinction occurs when you do not reinforce a specific behaviour. For example, you may make a commitment to totally ignore inappropriate comments made by an individual. It is common when using extinction to see an initial increase in the behaviour. For example, ignoring inappropriate comments will initially result in the person becoming more vocal and explicit. However, if you continue to ignore this behaviour it should decrease/ cease over time.

Example: *Allen tried to get his mum's attention by knocking his cup over during mealtimes. His mum would clean up the water, pick up the cup and refill it. This series of actions reinforced Allen's behaviour of concern because he was getting the attention he was seeking. To address this problem, Allen's mum started ignoring Allen when he tipped over his cup. At first Allen tried to get her attention by throwing the cup on the floor, but then he stopped engaging in this behaviour because it was no longer resulting in the desired outcome (getting attention).*

Description

This is one of the most basic and powerful behaviour support interventions to help decrease target behaviours. When we present a reward (reinforcer) following a behaviour, it can increase the likelihood of this behaviour occurring in the future. Therefore, by withholding this reinforcement, it is possible to decrease the likelihood of a behaviour occurring in the future. If someone does not receive reinforcement for his or her behaviour, they may be less likely to engage in that behaviour over time. In essence, when applied, this procedure follows the maxim of "ignore something and it will go away".
One of the biggest challenges in the use of extinction is to be consistent. For this approach to be most effective, the reinforcer maintaining the behaviour must be consistently withheld whenever the behaviour occurs. However, it is very easy to slip and reinforce rather than ignore the target behaviour, as we have customarily reinforced this behaviour in the past. For example, when trying not to pay attention to someone so that he or she will remain focused on task, we may find ourselves inadvertently laughing at that person's jokes. When this happens, the person may learn that although the behaviour is not reinforced all of the time, it is sometimes reinforced. Intermittent reinforcement (sometimes reinforcing behaviours) can be very powerful in maintaining behaviour, and therefore when this occurs during an extinction procedure, it may take longer for the behaviour to stop occurring.

In other situations, all caregivers or family members/ friends may not be consistent in ignoring the behaviour and the person will simply learn who will and will not reinforce the behaviour. This is similar to a child knowing which parent to go to when they want something.

Finally, you may not be in control of the reinforcer (response) that is maintaining the behaviour, and the person may be able to find other avenues from which to be reinforced for the behaviour. For example, if you decided to no longer pay attention to a persons 'spitting' behaviour, they may be able to find a way for other community members to give him or her attention.

In such situations, extinction may not be effective because you are not able to fully control the reinforcer that is maintaining the behaviour.

Extinction strategies can take time to work, and it is possible that the target behaviour will increase in strength and frequency before decreasing. This is because the person may first try harder for the reinforcer before learning that it is no longer available. If the behaviour starts to increase, don't assume that the procedure is not working and "give in." The rule is to maintain the extinction intervention in full force unless you decide to abandon it completely. Otherwise repeated starting and stopping of the procedure may make the behaviour worse rather than solve the problem.

It is therefore important to think ahead when implementing this procedure, making sure that you (and your family) are able to manage the increased levels of the target behaviours. For example, a person who becomes too aggressive to handle during an extinction procedure may learn to manipulate others through this violence, and a person who initially engages in severe head-banging behaviour may accelerate to the point of potentially causing neurological damage. This does not mean that it is never appropriate to use extinction with these forms of behaviour, but that many considerations have to be taken into account before using this procedure for these types of challenging behaviours.

During an extinction intervention, it is important that the person is carefully monitored to ensure his or her safety as well as the safety of others. In addition, other strategies that reinforce appropriate behaviours and engage the individual in meaningful activities should continue.

Once the target behaviour has decreased to an appropriate level, it is important no to reinforce it again in the future. Otherwise there is an excellent possibility that the behaviour will come back.

Finally, extinction generally works best when it is used with positive reinforcement. This is a process known as differential reinforcement and is discussed below. In this procedure, one behaviour is targeted for decrease through the use of extinction, while more appropriate behaviour(s) are targeted for increase using positive reinforcement. Although differential reinforcement is preferred, sometime extinction procedures alone may be sufficient.

Please note: Extinction interventions that address *high-risk behaviours* should only be implemented by specially trained professionals.

When designing an Extinction program you should:

1. Identify the specific behaviour you want to target. Since many behaviours initially increase in frequency before they decrease, it is important to make sure that you and your family can control and manage the behaviour when it is at its extreme form.
2. State how often the behaviour currently occurs, so you can monitor whether the program is working or not
3. Consider other behaviour management techniques – do you think that extinction is the most appropriate procedure for the target behaviour?
4. Identify the reinforcer(s) (responses) that are currently maintaining the behaviour. Make sure you (and others involved) have full control of the reinforcers. If this is not the case, the extinction procedure is less likely to be successful.
5. Carefully monitor the persons progress – is the challenging behaviour decreasing?

Example: *Dianne shouted and screamed at others most of the time when she wanted something. She would shout even when someone was close by. Family members were told to ignore Dianne's yelling. At first, Dianne shouted louder to get their attention, becoming hoarse in the process. She soon learned that her family did not respond to her requests at these voice levels and decreased the amplitude of her voice.*

Activity

How might you use extinction in the following situation?

Richard had a great sense of humour and was often the life of the party. However, he did not always keep his jokes under control and often embarrassed his family with his off-colour humour. Attempts to talk to Richard about this had not been successful.

NOTES/QUESTIONS

Differential Reinforcement

Positive Reinforcement + Extinction = Differential Reinforcement

This technique is not as complicated as it sounds. It is a combination of positive reinforcement and extinction procedures (discussed previously): it involves reinforcing desired behaviours, while inappropriate behaviours are ignored. For example, if your goal is to encourage an individual to socialise with others, you would reward them for just coming out of their room, even if they haven't yet reached the end goal (socialising with others). In very basic terms, this technique involves reinforcing (rewarding) any desired behaviour rather than the inappropriate behaviour.

Example: *John would prefer his mother to get him drinks of water, bring him fresh towels when he is perspiring, and meet other needs that he is capable of himself. His mother would like him to meet his own needs. As a result, his mother ignored requests that he is personally capable of meeting, while at the same time socially acknowledging (praising) his effort to help himself. John soon begins to take greater charge of his daily needs.*

Description

Through using this approach, the person changes a less desirable form of behaviour to a more desirable one. For example, Amy's sister is trying to teach Amy to introduce herself in a more gracious manner. She asks her family members and friends to ignore Amy when she says "hey you!" or "oi", and to only respond to her when she says "hello, how are you?" In most situations, a person will quickly change his or her behaviour to continue to receive the social reinforcement of your response.
As with other approaches, it is important to be consistent when using differential reinforcement to maximise effectiveness. Otherwise, the person may learn that with certain people they get away with the behaviour, or they may become frustrated/ confused with the lack of direction. It is also a good idea for the for the behaviours that are going to be reinforced to be of approximately equal (or less) effort as the behaviour you are trying to extinguish. Otherwise the person may not feel that it is worth the effort to engage in the new behaviour. Furthermore, if you reinforce both the positive and negative forms of behaviour, the person will learn that they can engage in either, rather than just the new and more desirable behaviour.

When using differential reinforcement it is generally recommended to attempt to replace the challenging behaviour with some other specific behaviour. Usually, you would choose to reinforce the person for a behaviour that is incompatible with the behaviour that you are trying to decrease. For example, it is difficult to pace around the room (the behaviour to be decreased) and sit at the dining room table (an incompatible and acceptable behaviour to be increased) at the same time. Or, you may choose to reinforce a wide variety of other acceptable behaviours, just as long as the targeted challenging behaviour is not reinforced when it occurs.

Please note: Differential Reinforcement interventions that address high-risk behaviours should only be implemented by specially trained professionals.

When designing a Differential Reinforcement intervention you should:

1. Identify the specific behaviour(s) you want to increase through positive reinforcement and the specific behaviour you want to decrease through extinction
2. State how often the behaviour currently occurs, so you can monitor whether the program is working
   or not
3. Consider other behaviour management techniques – do you think that differential reinforcement is the most appropriate procedure for the target behaviour?
4. Identify the reinforcer(s) (responses) that are currently maintaining the behaviour that you want to decrease.
5. Carefully monitor the persons progress – is the frequency of the challenging behaviour decreasing?

The specific procedures and requirements of differential reinforcement are the same as the combined procedures of positive reinforcement and extinction. For more detail, please refer to the individual descriptions of these procedures on page 62 and 66.

Example: *George made inappropriate sexual comments whenever his mother had female friends visit. The more she tried to teach George that these comments were not welcomed, the more he said them. His mother asked her friends to ignore all the inappropriate sexual comments, but to readily engage him in conversation when he discussed other topics. At first George's behaviour became more vulgar, however, after a brief period of time he stopped all sexual comments towards females and talked about more socially acceptable topics.*

Activity

How might you use a differential reinforcement procedure in the following situation?

As part of Mike's physical rehabilitation, he is required to walk for at least 15 minutes per day. However, Mike prefers to stay at home or go on outings in his wheelchair. Whenever it is time to leave the house for their walk, Mike says that he can't go because he has sore legs. Mike's mother examines his legs (and on several occasions has also taken him to the doctor for examination, which has ruled out chronic pain), but is unable to identify any physical problems with his legs that would prevent him from walking.

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Overcorrection

This is helpful when the aim is to reduce a behaviour. Overcorrection is based on the principle of 'overlearning'. Behavioural restitution follows the occurrence of a specific behaviour. This gives a person the opportunity to take responsibility for their behaviour/ or make amends with a logical consequence that is directly linked to the behaviour.

Example: *Greg hates picking up his clothes and leaves a trail from the sofa to his bedroom each night. His father has encouraged him to pick up his clothes with points, verbal praise, and other approaches but has not been successful. His father uses a new program in which Greg has to clean up and wash all stray clothing each day that he does not pick up his own. Greg quickly learns that it is easier to pick up his own clothes than have to take responsibility for all stray clothing.*

Description

Overcorrection can be considered as a form of behavioural restitution in which a person is required to make amends and/or repair the 'damage' that occurred because of his or her behaviour. For example, as a result of Jane scratching patterns in the kitchen table with her knife, she was required to sand and re-varnish that section of the wooden table. Overcorrection is considered a 'punishment' procedure, as it uses consequences to decrease the probability of a behaviour occurring again in the future. When using punishment procedures there is a stronger need to ensure the persons rights and to monitor ethical/ legal issues. Consequences should be ethically sound and relate specifically to the target behaviour. We will discuss this further below and within our group session.

Overcorrection is most commonly used when a person fails or refuses to participate in an acitivity/ situation in which they are capable of, with the purpose of inconveniencing others. For example, this procedure might be appropriate for a person who is capable of eating neatly, but spills his or her food during mealtimes, thereby forcing his or her family caregiver to wash the floor each night. In this situation, the person might be required to clean the table and wash the floor around the table immediately after spilling food. It is hoped that he or she will learn that it is easier to eat neatly. In most cases, a positive reinforcement procedure would first be attempted in this situation, as a less restrictive procedure in which the behaviour of eating neatly (desired behaviour) is reinforced. However, sometimes it is not possible to gain access to the necessary reinforcers, or the behaviour is maintained by the ease of doing something poorly rather than engaging in the desired activity (think of how many times your dirty socks don't quite make it in the clothes basket, but you are content leaving them on the floor!).

Please note: overcorrection should never be used when a person does not have the required skills to perform the desired behaviour. For example, if the person in the previous example had problems with coordination, making it difficult to eat neatly (rather than choosing not to), an overcorrection procedure would not be acceptable. Instead, skills training or prosthetic methods may be more appropriate.

Overcorrection is most effective when the consequence for the target behaviour takes more time and energy than the desired behaviour. For example, eating neatly in the first place takes much less effort than having to clean the table and wash the floor. Similar to other procedures discussed, the consequence (response) should occur immediately after the behaviour occurs. The consequence should also directly relate to the behaviour, and of course cannot be malicious, abusive or vindictive. For example, it would not be acceptable or appropriate to make someone run ten laps around the block for leaving dirty clothes all over the floor. It would be more appropriate, to require the person to collect and wash all of the clothes in the house.

As mentioned, it is important that the consequence requires more effort than if the person had engaged in the desired behaviour in the first place. However, this should not be overly excessive and needs to be carefully considered. If you use a consequence that is overly burdensome, this may be resisted by the person or may even trigger aggression. When using an overcorrection program, it is also important that all caregivers (family members) are capable of consistently implementing the consequence, or it may not be effective. It is important to remain calm and directed, just stating the requirements the person should perform without using threats or other insinuations. This procedure shouldn't be used as a way to "get back" at a person for something they did. It may be helpful to discuss and practice your calm response to the behaviour with other family members, and make sure that you carefully monitor the program.

Positive reinforcement should always be used when implementing an overcorrection procedure, reinforcing alternative desirable behaviours. This ensures that you also focus on what the person is doing correctly rather than only focusing on their challenging behaviours.

PLEASE NOTE: This approach may be inappropriate for many forms of aggressive behaviours because it may trigger additional aggression.

Overcorrection can be easily misapplied and should be used carefully. Please seek advice from the Primary Researcher/ Trained Professionals before using this procedure.

Overcorrection interventions that address *high-risk behaviours* should only be implemented by specially trained professionals

When designing an Overcorrection intervention you should:

1. Identify the specific behaviour you want to decrease through overcorrection
2. State how often the behaviour currently occurs, so you can monitor whether the program is working or not
3. Consider other behaviour management techniques – do you think that overcorrection is the most appropriate procedure for the target behaviour? In most cases a positive reinforcement procedure should be attempted first
4. Choose an overcorrection process that:
   - is related to the repair of the environment caused by the target behaviour
   - requires more effort than if the person had engaged in the desired behaviour in the first place
   - can be administered consistently by everyone involved
   - can be presented immediately following the behaviour
   - can be used frequently without causing aggression
   - is ethical, moral and legal
5. Identify an alternative and appropriate behaviour that allows the person to earn reinforcement
6. Carefully monitor the persons progress – is the frequency of the challenging behaviour decreasing?

Example: *Paul found it easier to urinate on the floor than go to the bathroom. A medical assessment found no physical reason for this behaviour. His mother has tried to encourage him to use the toilet; teaching him how to use the toilet, using positive reinforcement for each time that he used the toilet, and ignoring the behaviour, but all these efforts have been unsuccessful. An overcorrection program was designed which required Paul to mop and disinfect the floor after each time he urinated. This process took him approximately 20 minutes. It was also something that otherwise his mother was left to do. When Paul properly used the toilet, his mother praised him. As a result of this intervention, Paul now has perfect aim.*

Activity

How might you use an overcorrection intervention in the following situation?

Eli has his friends over every Friday for dinner and drinks, after which he leaves beer bottles and takeaway boxes on the front lawn. His mother has tried prompting him, and using positive reinforcement for every time he put a bottle/container in the recycling bin. However, these methods were unsuccessful and she always ends up dealing with the mess.

NOTES/QUESTIONS

LOOKING BACK

Do you think any of the responsive approaches discussed (positive reinforcement, extinction, differential reinforcement and overcorrection) may be helpful in your situation?

There are several other behavioural approaches focusing on punishment (e.g., timeout procedures) and skill development (e.g., shaping and guidance procedures). However, the approaches discussed here are some of the most basic and powerful behaviour support strategies. Furthermore, you may have found that by implementing antecedent strategies (such as creating a positive environment and routine) that challenging behaviours have already decreased. As stated previously, antecedent strategies are emphasised in behaviour support interventions for people with brain injury, as following brain injury people often experience difficulty with information processing and memory (making it more difficult to learn from responsive strategies).

If you have identified that challenging behaviours in your family member with brain injury are related to his or her inability to physically or cognitively complete a specific task, then skill development programs may be appropriate. The Program Facilitator will work with you during the four individualised sessions to discuss what strategies may be most appropriate, and help you develop the skills required to implement these.

Module 7

What to do in a crisis…
& knowing where to get help

Aim

During this module we will discuss what to do in a crisis, and identify what services are available in South Australia that may be helpful in supporting you with behavioural challenges following brain injury.

Outcomes

On completing this module you should be able to:

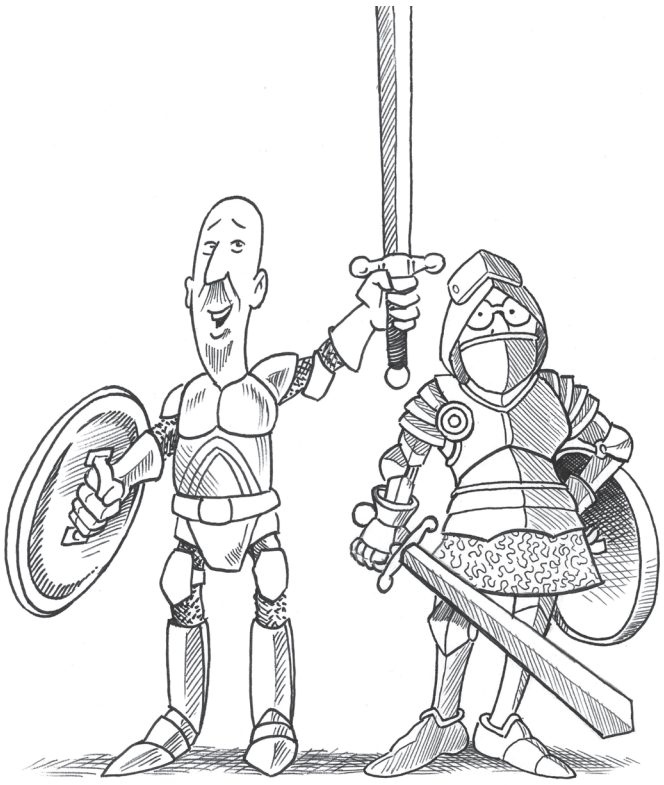
- know how to respond in a crisis, including;
  - the use of appropriate body language/ communication
  - strategies to keep yourself and the person with brain injury safe
  - who to contact in an emergency
- identify what services are available that may be helpful in providing behaviour support to individuals with brain injury, and knowing when and how to access these.

Managing a crisis

In Module 2 (page 31) we discuss what to do if anger behaviours are escalating.

We discuss the importance of:

- keeping calm and in control
- maintaining a safe distance from the person
- using non-confrontational body language
- thinking about the situation – e.g. is there anything reinforcing the behaviour? is anything frightening the person or are they being over or under stimulated?
- deciding on an intervention (how to respond to the behaviour)



It is important to acknowledge the concerns/emotions of the person whether you agree with them or not. This validates his or her experience, helping them feel 'understood'. For example, you might say "I can understand that (situation) is making you feel upset..."

If danger is present, clear the space if possible and remove others from the scene. Also make sure you can always see the person – it is important to never turn your back on a person behaving aggressively.

Restraint, medication (if prescribed and available) and self-defense should be used as a last resort.

If the situation seems uncontrollable, keep calm, leave as quickly as possible and go to a safe place.

If you are being confronted with high-risk behaviours, where the behaviour is presenting danger to you or the individual, please seek help immediately:

Domestic Violence Helpline (24 hours): 1800 800 098

Lifeline (24 hours): 13 11 14

Crisis Care (4pm-9am): 13 16 11

CRANA Confidential Support Line (for rural families) (24 hours): 1800 805 391

After an incident, it is important to debrief. Make time to speak with family/ friends or professionals regarding the incident – can you identify why the behaviour occurred? How did you respond? Can you think of how the situation might be avoided in the future?

After a crisis it is normal for a person to experience emotional and physical changes (both you and your family member with brain injury). If these changes persist, seek professional help.

Organisations/ services

Although there are limited services in South Australia that specifically support families with behaviour support following brain injury, there are a number of organisations that provide information and counseling, and run support groups for families. These are listed on the following pages.

Families4Families Incorporated

This support network offers peer support to people with brain injury and their family caregivers. Families4Families Inc. offers information sessions relevant to different stages of the ABI journey, including dealing with the shock, trauma and grief involved in brain injury. This support network runs information sessions specific to 'Anger and ABI' and provides peer support and networking. Online resources and materials are also available.

Ph: 0433 388 250

Email: office@families4families.org.au

Website: http://families4families.org.au

34 Dunorlan road,
Edwardstown SA 5039

Brain Injury SA

This network offers counselling and community support to people with ABI and their carers. They run seminars and forums, and offer programs including Springboard and Coffee Clubs. The Springboard Program supports people with ABI to reintegrate into the community through participating in physiotherapy, speech therapy and community learning and life skills, and meaningful community engagement. The Coffee Clubs provide individuals with ABI and their families the opportunity to network and find out more about other programs and evens at Brain Injury SA.

Ph: (08) 8217 7600
Country Callers: 1300 733 049

70 Light Square,
Adelaide SA 5000

Brain Injury Rehabilitation Community Home (BIRCH)

BIRCH offers home-based and outpatient therapies. This facility provides personalised and goal-orientated rehabilitation. They offer a range of multidisciplinary services and expertise relating to behaviour management following ABI. This service has specific criteria and is available for a limited period of time.

Ph: (08) 8222 1888 (northern clients)
Ph: (08) 8222 1414 (southern clients)

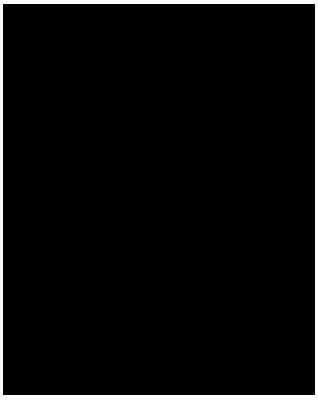
Hampstead Rehabilitation Centre
207 Hampstead Road
Northfield SA 5085

Flinders University Community Re-entry Program

This is a holistic rehabilitation program aimed at assisting adults with brain injury to enhance their social life and prevocational skills. The program includes a variety of social, recreational and educational workshops that incorporate movement, writing and communication, and skill development. The aim of the program is to empower members to fully participate in the community.

Ph: (08) 8201 3311
Email: crp@flinders.edu.au

Flinders University
Sturt Campus
Bedford Park SA 5042



Disability Services SA (DSA)

DSA offers case management to individuals with ABI, which may include home supports, personal care, and access to day programs. They also provide information and counseling, and run support groups for carers. This service requires individuals with ABI to have a sufficient permanent disability.

Ph: (08) 8272 1988

Disability Services Central Office
Level 9, 103 Fisher Street
Adelaide SA 5000

Diverge Consultation (Victoria)

Secondary consulting
Divere is a non-for-profit organisation that provides a range of services to promote effective behaviour support. They offer psychological services, including behaviour assessment, intervention, counseling, training and research. You will need a referral to access these services. Information on referral requirements, and the referral form can be downloaded at
http://diverge.org.au/referrals/

Ph: (03) 9329 4330

60 Lothian Street
PO Box 777
North Melbourne Vic 3051

Synapse (QLD)

This non-profit organisation is based in QLD. They publish a range of resources, fact sheets and books relating to challenging behaviours following ABI and community reintegration.

Ph: (07) 3137 7400
Ph: 1800 673 074 (outside Brisbane)
Website: https://synapse.org.au

Level 1 262 Montague Road
West End QLD 4101

Psychologists/ psychiatrists

(Neuro)psychologists and (neuro) psychiatrists can also offer specialised support in the management of challenging behaviours, and can help in developing individualised behaviour management plans.

There are a number of private and public (neuro)psychologists and (neuro)psychiatrists within South Australia. It may be worth asking your GP and other family caregivers in your support groups/ networks if they can recommend anyone in particular.

Take Home Messages

- Following brain injury, a person may experience changes in information processing, memory, cognition (thinking), personality/behaviour, and/or physical ability
- There are specific strategies that can be used to deal with these changes
- It is important to be able to identify potential triggers of anger and 'early warning signals' that a person is becoming angry. To better understand how to manage anger behaviour it is useful to understand the scale of anger (e.g. from calm to aggressive), and recognise that anger can be a secondary feeling (e.g. resulting from pain, fear or humiliation)
- Behaviour support strategies start with analysing the challenging behaviour, using the observation sheet. This may reveal patterns in the target behaviour, including similar times/settings when the behaviour occurs, and perhaps consistent antecedents or consequences that may play a part in reinforcing the behaviour
- There are behaviour support interventions that can be useful in supporting behavioural changes following brain injury
- Managing a crisis involves remaining calm and in control, keeping a safe distance from the person, using non-confrontational body language, analysing the situation, deciding on an intervention, and debriefing following the incident

Thank You!

Thank you again for participating in this program. We do hope you have found these sessions helpful and look forward to your feedback.

Individualised behaviour support plan

Now you have completed this four-week education program you will continue to meet with the Program Facilitator for approximately 2 hours each fortnight for four visits to develop and implement an individualised behaviour support plan. The Program Facilitator will make contact with you to confirm the details of these visits (what time and location will suit you best) and your involvement.

This workbook was supported by the project team with further content adapted from the following resources:

Dark, F.
Understanding Challenging Behaviour Following an Acquired Brain Injury
BRAIN INJURY Association of Queensland
Murphy Schmidt Solicitors

Responding to Challenging Behavior Following an Acquired Brain Injury
BRAIN INJURY Association of Queensland
Murphy Schmidt Solicitors

Jacobs, H. E. (1995)
Behaviour Analysis Guidelines and Brain Injury Rehabilitation
Aspen Publications, Inc.
Maryland

Martin, C. (2011)
Working with people with traumatic brain injury
Staff self-study Module 5: Understanding and managing behaviour changes following a TBI
http://www.tbistafftraining.info/SelfStudy/Module_5/5.0.htm
Brain Injury Rehabilitation Unit
Liverpool Hospital, Sydney

Ponsford, J., Sloan, S., & Snow, P. (2013)
Traumatic Brain Injury: Rehabilitation for Everyday Adaptive Living
Taylor & Francis Ltd
United Kingdom

Ylvisaker., M. & Feeney, T..J. (1998).
Collaborative Brain Injury Intervention: Positive Everyday Routines
Thomson Learning
Canada

Disability and Community Inclusion
College of Nursing and Health Sciences

P: (08) 8201 2576
E: Alinka.Fisher@flinders.edu.au

Disability and Community Inclusion Unit
College of Nursing and Health Sciences, Sturt Campus
Flinders University
GPO Box 2100
Adelaide SA 5001 Australia
flinders.edu.au/sohs