

Executive Problems Following Traumatic Brain Injury

Patient Information Booklet



Talis Consulting Limited

What are Executive Functions?

Your brain performs a number of highly complex skills all the time. When you decide where to go for your holiday, or when you have to work out the best way to get your sofa through that tight doorway. These tasks require a number of skills working together, skills of judgement, problem solving and effective attention. It takes executive functions to bring all these skills together and make sure that they can all work effectively alongside one-another.

You may wish to imagine executive functions as a general of an army, or the conductor of an orchestra, someone who co-ordinates many different processes in order to achieve a result.



What do I use executive functions for?

Executive functions can be divided into certain groups of skills. Although we use executive functions in almost everything we do, the following are skills which rely heavily on executive functions:

Planning:



- An ability to have an accurate idea of our own strengths and weaknesses, and to anticipate problems we may have.
- Shifting attention from one thing to another effectively and sensibly.
- Finding the relevant information and working out which parts are important.

Implementing:

- Just starting a task without help or prompting from others is hard to do without executive functions.
- Breaking down goals into a number of separate, achievable, individual steps. Then working out how best to do them and in what order.

Monitoring:

- Assessing the appropriateness of what is done, and identifying mistakes and errors.
- Working out how to deal with a problem when it arises.
- Knowing when we need to stop thoughts or behaviours that are inappropriate or ineffective or “Keeping a lid” on certain things.



What Happens if Executive Functions are Damaged?

If the executive functions are impaired then we may not be able to coordinate skills effectively and this can cause problems in everyday life. If you imagine an orchestra without its conductor then certain sections may play where they shouldn't, they may play too loudly, or they may not come in to play at all.

This cluster of difficulties is sometimes known as “dysexecutive syndrome”.

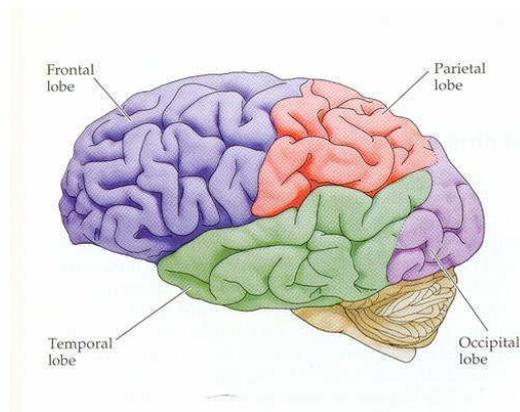
What situations will become difficult if executive functions are impaired?

Difficulties with executive functions become particularly obvious in new or unfamiliar situations. Routine tasks are less-affected.

It is often the case that problems with executive functions make it difficult to think creatively and to concentrate on the relevant details when we are faced with an unfamiliar situation.

Why are executive functions impaired after a brain injury?

Executive functions are thought to be processed in the frontal lobes of the brain (the part just behind your forehead). This area is often damaged when we take a knock to the head because the brain can hit the bones above the eye-sockets. This is particularly likely if the head undergoes a sudden injury, such as whiplash from a car accident.



Why is it I still feel I can function perfectly well on certain tasks?



Executive functions are not really needed when we perform tasks that are well learned or routine. This is because we know what kind of situations arise when we perform these tasks and we know how to deal with all these situations already. This can also lead to the impression that there is nothing wrong with you, and many people with impairments in executive functions find it difficult to accept that they have a problem.

What Can be Done to Help?

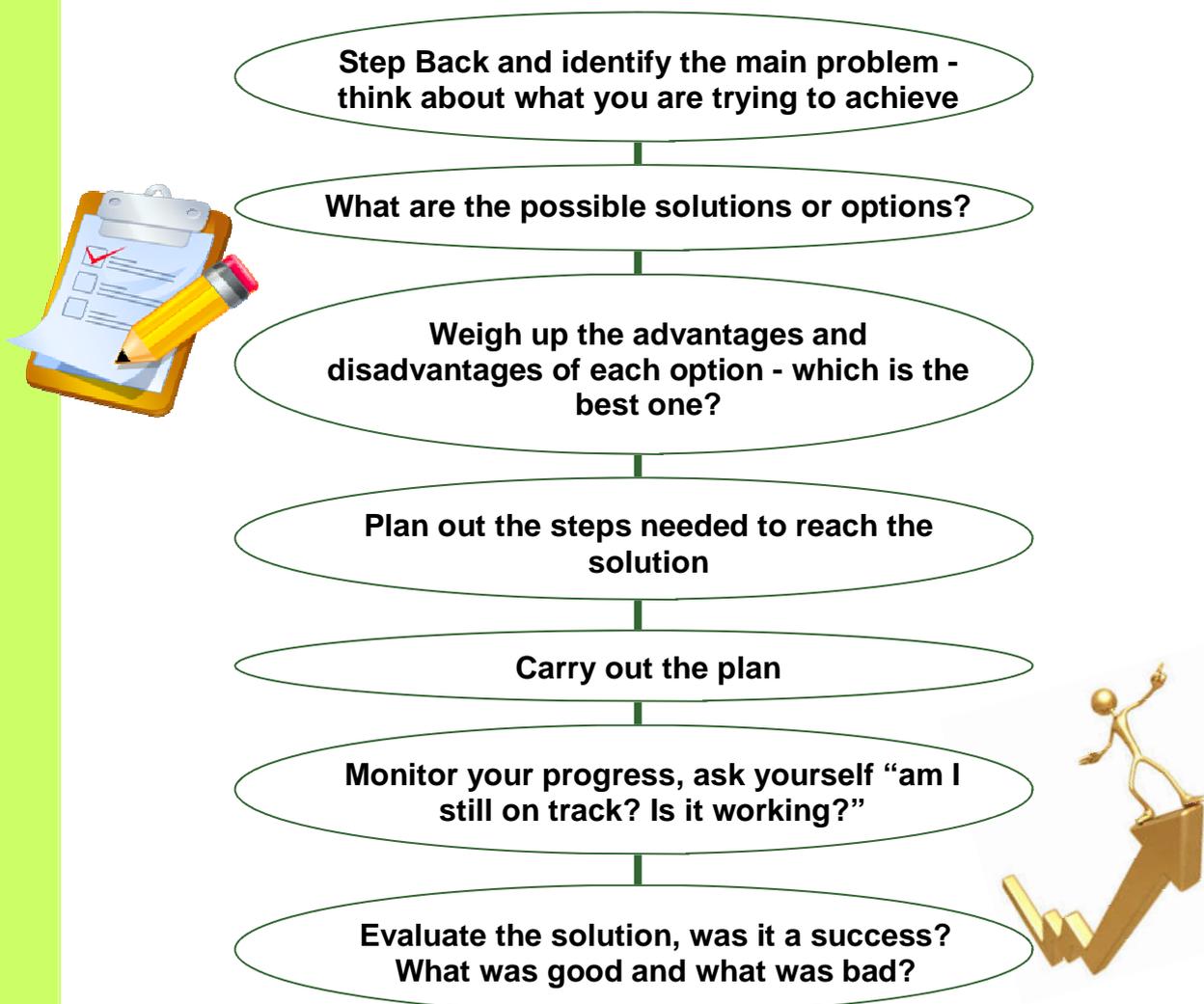
There are a number of strategies that can help you adapt to new situations and decrease the demand on your executive functions.

Try to create structure out of unstructured situations

Highly structured situations where you have a list of goals and know how to achieve them will require far less executive functioning than one general goal. Break down things you want to achieve into specific tasks. Establishing routines and habits means you won't have to problem solve situations each time they arise.

If you do need to problem solve in a new situation, do so consciously and systematically

Some situations cannot have a routine imposed on them, or cannot be broken down into simple steps. In these situations you may be required to problem solve. This can be made easier by consciously going through the elements of decision making that we would normally go through without much thought. It can be helpful to write out a flowchart outlining the stages of decision making. You may find you need some or all of these stages:



What Can be Done to Help (Continued)

If there are many stages to a task, consider writing them out

If a task is complicated then the number of stages may become overwhelming. Writing out a checklist that you can refer to is a good way of imposing structure on a task such as this, and allows you to see what tasks need to be co-ordinated to achieve your goal.

Make sure that when you make plans you carry them out

When there are problems with executive functions it can be hard to initiate the plans you make. It may be beneficial to use prompts to remind you to start tasks; alarms or reminders from other people will reduce the likelihood of tasks not being carried out. It may also be useful to get into the habit of doing tasks immediately when you think of them, putting something off until later will only increase the chances of it being forgotten about.

Experiment with mental skills that will help you to think more clearly

It can be hard to keep an overall goal in mind when there are many things to keep tabs on. One method of helping to clarify all this information and keep track of what is going on is to try and use a 'mental blackboard'.



When you have a goal you need to achieve, imagine writing it on your mental blackboard. You may find it easier to use images rather than words. Make sure that anything you imagine placing on this blackboard is clear and vivid in your mind. It is important that you regularly check your mental blackboard to see what needs to be done.

When you have finished a task you can imagine wiping it clean. Some people also find it useful to use alarms and prompts to remind them to check their mental blackboard.



Try to avoid "divided attention" tasks

Doing two things at once will place strain on your executive functions. Try and minimise this by ensuring that whenever it is possible only work on one task at a time. This can be done by paying careful attention to the structure of your day.

General Tips to Help Lower the Burden on Your Executive Functions

The following tips are some general ideas of how you can work around any problems you have with executive functions. Some tips will work better for some people, so think what specific problems you have and apply these methods to suit your needs.



Have a quiet working environment

Distractions will make working much harder. Having a quiet place you can stop and think about what needs to be done will allow you to concentrate on the task in hand.

Aim for consistency in your routines

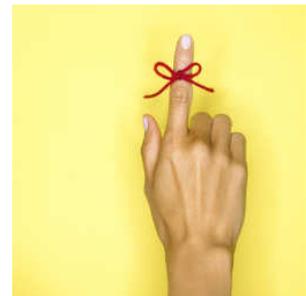
Think about what you can incorporate into your working routine that will allow you to keep it regular. Novelty will place demands on your executive functions, so reduce the amount of new things you need to do. Keeping a checklist of frequent tasks and referring to it may help to keep these situations consistent.

Work out the best way you can be prompted

Having others prompt you to do work can feel like nagging. Find a phrase that won't annoy you and ask others to use it when you require prompting.

Make the most of your memories

If you find yourself in a novel situation, think back and see if you have encountered a similar situation before. How did you deal with it then? What problems arose? How did you solve those problems? Making use of these past memories can help you to work out what needs to be done.



Listen to what others say about your problems

It is natural to feel that there is nothing wrong with you, and when people point out what difficulties you are having it can seem like they are criticising you. It is important that you stand back and take a look at the bigger picture to see if they are right about these problems. Find someone you can trust to give you honest feedback about your actions. You may have to accept and recognise that you have a problem.

More General Tips

Keep in mind a stock phrase that will motivate you

Some people find it beneficial to have a phrase they can refer to which will help them through any problems they may encounter. This could be “*stop and think*” or “*what are my choices*” or “*am I on track?*”. These phrases force you to consciously evaluate the situation and may help get you through any difficulties. Some people find it helpful to write them down on cards where they can be easily seen.

Take frequent breaks

Breaks will help reduce tension and strain when working. Don't overdo your work. Taking a break every hour is a good strategy to help you get through your work smoothly.



Be organised

It will help immensely if you are tidy and organised in your behaviours. Carry around a small diary to refer to and write in appointments. You may also find it useful to get a large wall calendar which shows you clearly what you need to be doing for the days ahead.



Organisation is also important. Consider having a consistent place for everything you use, put items back in the same drawers and cupboards every time. You do not want to be hindered in a task because you cannot find something.

Always bear in mind that problems with executive functions are very common following head injury. It is important not to worry if you find yourself having difficulties and not to become frustrated, stress will only make things harder. It is possible to work around executive functioning deficits using organisation and structuring. Work out what techniques are best for you and apply these to tasks you find difficult.

Useful Websites:

www.headway.org.uk

- A useful web site with much information about brain injury and rehabilitation in the UK.

www.birt.co.uk

- Another useful web site concerning brain injury, with downloadable leaflets about brain injury and its implications.

http://www.northeastcenter.com/information_bulletin_executive_control_and_skills_impairment_following_tbi.htm

- A website with some basic information about executive functions following head trauma

<http://www.neuro.spc.org/vaughan/ExecutiveFunctionLecture.pdf>
- A thorough review of executive functions and possible executive deficits.

