

# Executive dysfunction after brain injury



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## What is executive function/ dysfunction?

Executive function is the name for a collection of thinking skills that we use when solving problems, making decisions, planning and completing tasks, and reflecting on our activity. It involves skills such as planning, motivation, multi-tasking, flexible thinking, monitoring performance, memory, self-awareness, and detecting and correcting mistakes.

We rely on many of these executive function skills on a daily basis, such as to cook a meal, follow a conversation, interact with others, work, study and plan our day, among other activities.

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These skills are processed in a part of the brain called the prefrontal cortex. Other parts of the brain closely connected to the prefrontal cortex are also involved. Unfortunately, the prefrontal cortex's positioning in the brain (at the front) makes it a common site of injury. People with injury to their prefrontal cortex can therefore often have difficulties with their executive function skills - when this happens, they are said to have executive dysfunction.

Executive dysfunction is also sometimes referred to as 'frontal lobe problems' or 'dysexecutive syndrome'.

**The information in this publication does not replace clinical guidance from medical professionals. You should always seek advice from a GP or other suitably qualified professional for help with managing the effects of brain injury.**

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## Executive dysfunction - impaired skills

Some of the executive functional skills that may be affected following a brain injury are:

**Motivation/initiation** - a survivor may lose their sense of 'get up and go', making it difficult for them to start or complete tasks. This may be mistaken by others for laziness or disinterest. For example, a survivor may frequently be reminded about needing to book an appointment, but even though they intend to do it, they don't get started on it so it doesn't get done.

**Organisation** - a survivor may struggle with making and sticking to plans. Thinking through the steps to get things done may be difficult. For example, a survivor may be unable to keep track of appointments and frequently get these muddled up.

**Flexible thinking** - adapting or changing behaviour, or switching between tasks

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may be difficult as the survivor may become stuck or fixed on certain information or behaviours - this is called 'rigid thinking'. For example, thinking to lower the heat if food is cooking too quickly.

**Problem-solving** - thinking through problems and forming solutions may be difficult for the survivor. It may also be difficult for them to anticipate the consequences of their decisions. For example, a survivor may be unsure of what steps to take if they have lost their bank card.

**Impulsivity** - a survivor may act too quickly and impulsively without fully thinking through the possible consequences, for example spending most of their pay cheque on something without considering the bills that need to be paid later.

**Planning** - thinking ahead and going through the various steps to complete an activity may be more difficult for the survivor. For example, it may be confusing for a survivor to follow the various steps needed to arrange and book a holiday.

It may be difficult to identify exactly which areas of executive dysfunction are impaired, and often more than one skill is affected. Specialist tests completed by professionals called neuropsychologists can help with identifying areas of difficulties and therefore possible solutions to help - more detail about this is provided in the section *Professional help*.

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## The impact of executive dysfunction

Executive dysfunction can cause problems with aspects of day-to-day functioning, such as:

- Starting or finishing tasks
- Interacting with others
- Making decisions
- Thinking through problems and forming solutions

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- Using alternative solutions if needed
- Behaving appropriately and controlling emotions such as anger
- Planning ahead

As these effects are not visible, it is sometimes difficult for others to recognise or understand them. This can be upsetting, frustrating or embarrassing for some brain injury survivors. On the other hand, some brain injury survivors may themselves be unaware of their executive dysfunction - they may not have insight into the impact of their brain injury. Executive dysfunction may also cause family and friends to feel upset, concerned, embarrassed or frustrated, especially if the survivor refuses help.

Returning to work or education may be particularly difficult for survivors with executive dysfunction, as we rely on many of our executive function skills for working and studying, such as multi-tasking, organisation and motivation. Struggling to prioritise, make decisions and complete tasks can also make life difficult.

As well as having difficulties with managing day-to-day life, a brain injury survivor with executive dysfunction may find themselves in challenging situations. For example, they may encounter financial problems if they have impulsively spent more money than they ought to have, or they may accidentally get into trouble with the police.

**Headway's Brain Injury Identity Card is designed to give added confidence in everyday social scenarios. Each card is personalised, helping the card holder to explain the effects of their brain injury and any support they may need.**

**For more information, visit [www.headway.org.uk/idcard](http://www.headway.org.uk/idcard) or call 0115 855 0088.**

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## Professional support

Professionals called clinical neuropsychologists can help with identifying areas of executive dysfunction that may be causing difficulties. This may be done by asking the brain injury survivor to complete neuropsychological tests. There are many different types of neuropsychological tests, with some broadly testing cognitive skills while others explore specific aspects of cognition in more detail.

A clinical neuropsychologist may also ask questions to get more detailed information on the sorts of difficulties a brain injury survivor is having on a regular basis. They can then suggest methods of improving or coping with executive dysfunction.

You may already have access to a clinical neuropsychologist, for instance as part of a rehabilitation programme. However, if this not available, you can still speak to your GP about getting a referral to one. You can also search the British Psychological Society's register of clinical neuropsychologists, available at [portal.bps.org.uk/Psychologist-Search/Specialist-Register-of-Clinical-Neuropsychologists](https://portal.bps.org.uk/Psychologist-Search/Specialist-Register-of-Clinical-Neuropsychologists).

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## Tips for coping with executive dysfunction

The following tips are general suggestions for coping with various aspects of executive dysfunction. They do not replace clinical guidance.

### Motivation

- Consider rewarding yourself each time you complete a task. The rewards can be something simple, such as treating yourself to a snack you enjoy or saving an episode of a program you like to watch until you have completed the task that needs to be done.
- Make a note of things that need to be done and stick it in a prominent place, such as writing on a brightly coloured post-it note. You could cross items off as you complete them. This can help to stay organised and motivated, while also giving you a positive sense of achievement.

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- Try to identify the reasons why a certain task is important to you. Sometimes it can help us to complete something if we are emotionally motivated to do it.
- Set alarms to try and prompt yourself to begin an activity.
- Set times and dates by when you aim to complete an activity and make a note of these, for example on a calendar.

## Organising

- Keep lists of things that you need to do or things that you need to remember, or use a diary to organise your time.
- Set yourself timers and reminders for things that you need to do.
- Use a filing system to keep important papers, emails, etc, organised, for example keeping a separate, labelled folder for hospital letters.
- Try to plan things in advance where possible so that you have enough time to organise yourself.
- Try to keep things that you regularly use or things that you regularly take out with you, such as your mobile phone or keys in one single place.
- When you are in the middle of a task that has lots of steps (such as cooking a meal), try to pause regularly and take a moment to think. Ask yourself: *What am I doing just now? Where am I up to in my plan? Should I still be doing this task or should I have moved onto another task?* Remember: 'STOP-THINK'.

## Flexible thinking

- Where possible, try to make back-up plans in advance and write these down so that you are prepared if you need to change your plans. This can help a lot if you are under time pressure during a task and have to change plans at short notice.
- Try to break larger tasks up into different stages so that you can focus on one at a time. For instance, cooking one part of a dinner and then keeping it warm in an oven while focusing on cooking the next part of it.

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- If you need to complete multiple activities at the same time, set a reminder so that you are prompted to swap between them.
- Talk through plans with others so that they can help you to think about situations that might involve a change of plan and how you will deal with this.

## Planning

- Use a step-by-step approach, dividing activities into manageable 'chunks' and make a list of each step. For example, if you are planning a holiday, you could make lists with separate headings such as things to pack, agencies to contact, travel dates, etc. If you are completing your activity with someone, such as a friend or a colleague, ask them to look over the list to make sure you have not left any of the steps out.
- Use checklists and tick off each part of the activity you have completed. This can help you to stay on track.
- Allow yourself plenty of time to plan activities and record your plans, using things such as calendars, diaries, alarms, mobile phones etc to make notes, lists and set reminders.
- Mentally rehearse your plans.
- Discuss your plans for the rest of the day with others; they can help you to stay on track with your planned activities.
- Prepare a weekly routine for tasks like shopping, washing, tidying the house. Knowing, for example, that Monday is a shopping day might make it easier to plan ahead, such as writing out a shopping list.
- Try to make back-up plans in advance so that you are better prepared if problems come up.

## General tips

- Tell others about how you are feeling, what you are struggling with and how they can help. You can suggest practical ways they can help, or just remind them to be patient and understanding with you. You can show them this

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publication if it helps to explain some of your areas of difficulty. Remember that executive dysfunction is often not 'visible' to others so it will be harder for people to understand how you are feeling.

- Fatigue can sometimes worsen some of the effects of brain injury. Try to get enough rest and manage your fatigue if possible - tips for this are available in our publication [\*Managing fatigue after brain injury\*](#).
- If you are struggling at work due to executive dysfunction, talk to your manager or employer about ways in which you can be better supported. You may be able to introduce the use of tools such as diaries or wall charts to help you to keep on track, or have extended deadlines so that you have more time to organise yourself. Consider talking to your colleagues about your support requirements as well.
- Complete tasks in a distraction-free environment where possible so that you can focus on the task at hand.

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## Acknowledgements

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