



# Deep brain stimulation (DBS)

Explains what deep brain stimulation (DBS) is, how it works, what are the side effects, and what to think about before having the treatment.

## What is DBS?

Deep brain stimulation (DBS) is a type of brain surgery. Your doctor might consider it as a treatment if you experience:

- Long-term [obsessive-compulsive disorder \(OCD\)](#), if other treatments have not helped
- Severe [depression](#), if other treatments have not helped

The [National Institute for Health and Care Excellence \(NICE\)](#) says DBS can be used to treat OCD, but only as part of a research study. This is because there is not enough evidence on how safe or effective DBS is.

If your doctor suggests you could take part in a DBS study, they should explain the purpose and methods of the research to you. They should talk to you about the procedure, and any risks and side effects. They should answer any questions you have so that you can make the right choice for you, and provide [informed consent](#).

## How does DBS work?

- The DBS procedure happens using anaesthetic. This might be with general anaesthetic, which sends you to sleep. Or it may be with local anaesthetic, where you are awake but a part of your body is made numb.
- Doctors will place electrodes in your brain through two small holes in your skull. Electrodes are insulated wires that conduct electricity.
- They will then put a stimulator under the skin on your chest. The stimulator is similar to a pacemaker.
- They connect the electrodes to the stimulator using wires under your skin.
- The stimulator then sends electric pulses through the electrodes to the brain. This stimulates parts of the brain.
- The electrodes and stimulator are left in place. The levels of stimulation can be adjusted or stopped.

If you experience OCD, the aim of DBS is to reduce obsessive-compulsive thoughts and behaviours. You might find DBS helpful while the stimulation is turned on. But these thoughts and behaviours could return when it is turned off.

DBS does not work for everyone. And it should only be considered if other treatments have not worked, for example [talking therapy](#) or [medication](#). You may need to continue with other treatments alongside the DBS.

## What are the side effects of DBS?

Possible side effects of DBS include:

- Infection after the operation
- Complications if the equipment goes wrong, such as problems with the stimulator
- Complications from the surgery itself, such as bleeding in the brain and seizures (fits)
- Increased symptoms of depression and [anxiety](#)
- Confusion or forgetfulness
- Headaches
- [Sleep problems](#)
- [Hypomania](#)

Some side effects may go away or get better over time. Others may be longer-lasting. Your doctor should explain the possible side effects and how likely they are for you.

Having the DBS implants may also mean that you cannot have [electroconvulsive therapy \(ECT\)](#).

Some people have reported experiencing suicidal feelings after DBS. But researchers don't know if the surgery itself causes these feelings, or if they are caused by the mental health problem that was treated by the DBS.

If you feel unable to keep yourself safe, it's a mental health emergency.

[Get emergency advice](#)

## How can I access DBS?

DBS is a rare treatment. It is not widely available in the UK. Doctors will only suggest it if other treatments have not worked. If you want to find out more about accessing DBS, you could discuss this with your doctor or mental health team.

# What should I think about before getting DBS?

If your doctor recommends that you have DBS, these are some questions you could ask to learn more. Or you could ask someone you trust, or an [advocate](#), to ask these questions for you:

- Why have you suggested DBS? What are its benefits?
- How likely is it that DBS will work for me?
- What are the risks and side effects?
- What does the operation involve?
- How long will I have to stay in hospital?
- What other treatment options are available to me? Have you offered me every other available treatment?
- What happens if DBS doesn't work or something goes wrong?
- How long will it take me to recover from surgery?
- When will I feel the effects?

## What if DBS doesn't work?

It might feel frustrating or disappointing if a treatment such as DBS doesn't work for you. Especially if you feel like you have tried lots of different things already.

Try to not to blame yourself. And remember that different things work for different people. You could also talk to your doctor about other options you could try. Our pages [seeking help for a mental health problem](#) have more information on getting support for your mental health.