



FREED



# The Brain and Eating Disorders



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## What is brain malleability?

**The human brain is amazing! It can change and adapt to our environment over our whole life.**

The way the brain adapts and changes is sometimes called 'brain malleability' or 'plasticity'.

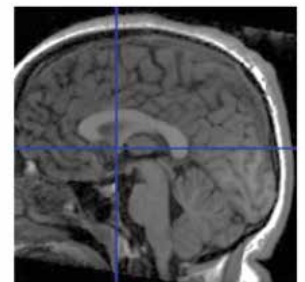
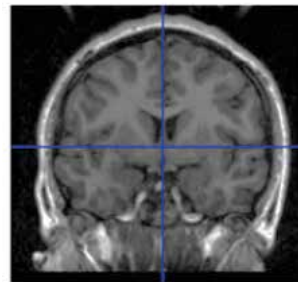
In fact, our brains aren't fully developed until we are well into our 20's. This means that during our teenage and young adult years our brains are still 'under construction' and may be more vulnerable. Eating disorder symptoms can cause the brain to change through poor nutrition or stress. These changes may cause problems with some of the jobs the brain is supposed to do. Luckily, as the brain is so good at making changes or being 'malleable' during this time it also means that it is very good at recovering from these problems.

## Why do we want to talk about eating disorders and the brain?

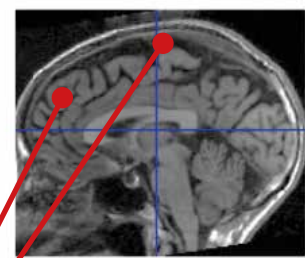
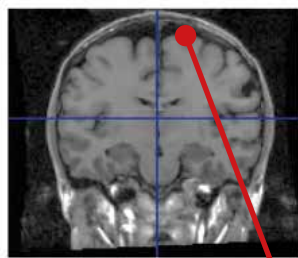
Eating disorders can affect the brain in a number of ways, and lead to changes in the brain that can keep the symptoms going. Importantly, if eating disorder symptoms are treated early the chances of fixing these problems is much higher!

Read on for specific examples of this!

## Help, my brain is shrinking!



**Adult who has never had an eating disorder**



You can see that some of the areas of the brain appear to have shrunk!

### Adult with anorexia nervosa

These gaps show where lots of different areas of the brain have shrunk. These areas are involved in different jobs, for example decision making and thinking flexibly.

As you can see on the picture above, when people are unwell with anorexia their brain looks very different to that of a person who has never had anorexia. The structure of the brain shows that some areas of the brain appear to have shrunk.

Pictures of the brain taken after recovery from anorexia nervosa show that there is an increase in brain size once people are back to a healthy weight. They also show that the longer they are recovered the more improvement in brain size there is!

## Am I making the right choice?

- People with anorexia nervosa often choose low calorie foods over high calorie foods.
- A study looked at what was happening inside the brain in people with anorexia and people who had never had an eating disorder whilst making choices between high and low calorie foods.
- The findings showed that when people made a choice about the foods they ate they used a part of the brain that is involved in making habits.
- This means that the more often someone chooses low calorie food over a high calorie food, it is more likely to become a bad habit.
- Over time these habits are likely to become more and more difficult to change. Getting help early will help stop these bad habits in their tracks and make recovery far more likely!

## Why am I reading it all wrong?

### Understanding the effect of eating disorders on relating to other people

Reading, understanding and reacting to others is an important part of building relationships and managing everyday social interactions.

Research tells us that people with eating disorders consistently experience difficulties with aspects of social and emotional behaviour which impact on their relationships.

Though there are some inconsistencies in the research it seems that these difficulties are made worse by starvation and improve in recovery.

Go to [www.freedfromed.co.uk](http://www.freedfromed.co.uk) for more info!

## I can't decide!

### Eating disorders and decision making

- Making decisions is essential for day to day living. Research suggests that people with eating disorders find it harder to make decisions than their healthy peers.
- Decision making is most difficult when weight is severely low, but seems to improve over time once a healthy weight has been achieved.
- Researchers caution that prolonged starvation can have lasting impacts on decision making, so early intervention gives the best chance for a full recovery.

### Want to know the full story?

Visit [www.freedfromed.co.uk](http://www.freedfromed.co.uk)

This booklet was developed by young people and staff from FREED – First Episode Rapid Early intervention for Eating Disorders. FREED services are based in NHS Trusts across the UK and aim to provide quick and effective early intervention for eating disorders.

For more information see [www.freedfromed.co.uk](http://www.freedfromed.co.uk)

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