



An excerpt from a podcast Inside Health Radio 4. Author Bryan Lask, Emeritus Professor in Child and Adolescent Psychiatry at the University of London.

For so long parents have been blamed for bringing on anorexia in their children, it's just nothing like that simple. In fact, there is no evidence whatsoever that parents can create anorexia nervosa, even in a genetically vulnerable child, that evidence has never been shown.

We believe we have got a much better understanding now and the way we see it is that there is a particular structure in the brain which is called the **insular** and the insular is a bit like Clapham Junction - it's a major part of the network. And the messages that go around the brain, many, if not most, travel through the insular. So if the **insular is not working properly**, which is what we believe is the case in anorexia, then messages get distorted or misrouted or lost on route.

There's a knock on effect around the brain and it means that many different structures in the brain are not working properly as a result. And to give you just a few examples of that. One structure that's not working properly is the **frontal lobe**, that's the thinking, planning, deciding part of the brain and it means that thinking is much more difficult when you have anorexia because it's swamped by feelings, the feelings come up from a different part of the brain, the feeling brain going up to the thinking brain, thus people with anorexia are desperately anxious.

In addition, there's another part of the brain called the **basal ganglia**, which is responsible for drive, for perfectionism, for exercise, for compulsion and that is over firing, it's overactive, because the insular which would normally modulate it, regulate it, is not doing so. So we now have very **high anxiety, we have obsessional drive, we have an inability to think properly**.

Another part of the brain that's not working because the insular's not working properly is the part of the brain that deals with **visual spatial images** and that's probably why people have a distorted body image in anorexia – they see themselves as fat when actually they are extremely thin. And all that we attribute to the failure of the insular.

And one of the **myths** that still persists is that people with anorexia choose to go on a diet, choose to remain the way they are, choose to have all these features and that's just as nonsensical as saying someone with pneumonia chooses to have a fever, to be short of breath, to cough and to be in pain when they breathe - none of that's a choice and none of what happens in anorexia is a choice. So trying to convince someone with anorexia that they are thin not fat, that they should eat, all those things, it doesn't work because it's like trying to tell someone with pneumonia don't cough, don't have a fever. Their illness is a very manipulative and controlling illness but they are not manipulative or controlling.



Most people with anoxia are **perfectionists** and therefore are compulsively driven to achieve at a very high level - work extra hard to do so and that shows through in schoolwork, it also shows through in the illness because they are desperate to achieve the lowest possible weight and starve themselves as much as necessary to do so.

*When people starve they deprive themselves of essential nutrients, one of which allows us to develop the **neurotransmitter, noradrenaline**. Noradrenaline we do need for all sorts of things but one of the things it does is makes us anxious - if we have too much we get very anxious. So if we starve ourselves we lose the nutrients that give us noradrenaline, our noradrenaline levels drop and we feel less anxious. Now people who have very high levels of anxiety find themselves less anxious when they're not eating, therefore that reinforces the pattern of not eating and then nice kind people like me come along and make these people eat and they get anxious again, then they don't eat and we get into a cycle which is one of the reasons that anorexia is so difficult to treat, it's one of the very few illnesses where people don't want the treatment because they actually feel better with the illness than without it.*

We've talked about **reward and addiction** and so on and if you've got an addiction you may not be motivated to overcome it, if you've got a problem that rewards you every now and then, like gambling rewards you so you keep going, so anorexia gives a certain degree of reward, then there's no motivation to overcome it. One of the most important types of therapy is motivational therapy, where we work on the patients' motivation to help them to gradually reverse the balance - the balance is so much in favour of the illness, the pros of the illness, and we try and help them work towards the cons outweighing the pros rather than pros outweighing the cons.

- Neuropsychological studies show impairments in specific cognitive functions, especially executive and visuo-spatial skills.
- Neuroimaging studies show structural and functional abnormalities, including cortical atrophy and neural circuit abnormalities, the latter appearing to be playing a major part in the development of anorexia nervosa.
- Neurochemistry studies show dysregulation within neurotransmitter systems, with effects upon the modulation of feeding, mood, anxiety, neuroendocrine control, metabolic rate, sympathetic tone and temperature.