The Biological (Medical) Model of Abnormality

This activity will help you to:

- Understand the medical model of abnormality
- Apply the ideas of the medical model to psychological abnormality

The biological (medical) model of abnormality makes the assumption that psychological and behavioural abnormalities have biological causes. In other words, things go wrong with behaviour and experience, because something has gone wrong with the brain.

Possible Biological Causes of Abnormality

Factor	Explanation
Genetics	The genes we inherit from our parents provide the 'blueprint' for our bodies and brains. A slight abnormality in the genes could result in abnormalities in a person's brain functioning with the consequence that their behaviour becomes abnormal.
Infection	The brain itself has no immune response. It relies on keeping infections (e.g. bacteria or viruses) out with a barrier. Infections that get into the brain can cause widespread damage, and if the brain is damaged then a person may start to have abnormal experiences or to behave in abnormal ways.
Chemicals	To operate properly, the brain relies on hundreds of different chemicals all being in the correct balance. These chemicals (neurotransmitters and hormones) are used to send messages round the brain and nervous system, so too much or too little of any of them can cause the brain to function abnormally.
Environmental factors	Although the medical model focuses on internal, biological processes, it does not ignore the possibility that the environment can have a role to play in abnormality. On the one hand, a person's experiences, such as high levels of stress, can cause biological reactions that have a knock-on effect on the brain's functioning. On the other hand, there are some toxins and pollutants in the environment that affect brain functioning directly, such as mercury, which can cause irrational behaviour and lead, which can affect children's development.

An Example: Depression

Depression is a severe psychological illness characterised by periods of very low mood and feelings of helplessness and guilt. People with depression find it difficult to motivate themselves to do their normal activities and often become socially withdrawn. They may also have disturbed sleep and appetite, amongst other physical symptoms. People who have depression run a substantially increased risk of suicide.

- Depression seems to run in families. People who are closely related to a depressed person are two to three times more likely to develop depression themselves, compared to people with no depressed relatives.
- People who have depression appear to have abnormal levels of serotonin compared with non-depressed people. A depressed person given a serotonin-boosting drug produces less serotonin and more slowly than a non-depressed person. Drugs that increase serotonin activity are often effective in treating depression.
- People who are carrying the Borna Disease Virus (usually found in livestock such as horses or sheep) run a higher risk of developing depression than the general population. One study found that 30% of a sample of depressed patients were carrying Borna Virus, compared to 8% carriers in a sample of people suffering from another type of disorder.
- Stress and depression seem to be related. Prolonged stress causes the body to release cortisol. Cortisol has an inhibitory effect on serotonin, and depression can be a consequence of long-term stress.
- Exposure to certain chemicals, such as organophosphates, also seems to increase the risk of depression. Occupational groups who use such chemicals in their work are frequently found to have a higher risk of depression than the general population.