

How alcohol affects the brain

Alcohol is a **neurotoxin** - it can damage brain cells and blood vessels and stop new brain cells from developing. Alcohol use has lasting effects on our brain. There is no safe level of alcohol use for brain health.

NO ALCOHOL USE – preserves and protects brain health

LOW ALCOHOL USE - widespread effects to the grey and white parts of the brain resulting in alterations e.g. decision-making and cognition

MODERATE ALCOHOL USE - changes to the way the brain works that can cause a range of problems

HIGH ALCOHOL USE - can permanently damage the brain

Try our Drinks Calculator on www.askaboutalcohol.ie to assess your alcohol use



POOR JUDGEMENT *

The **Cerebral Cortex** is the area of the brain involved in thinking, decision-making, emotions and the five senses. Alcohol can impair your ability to think clearly and lead to poor decisions.



MENTAL HEALTH *

The **frontal lobes** are responsible for planning, forming ideas, and making decisions. Alcohol can negatively affect our emotions, behaviours and decisions, and lead to anxiety and depression.



LEARNING AND MEMORY *

The **hippocampus** is where memories are made. Alcohol can cause difficulties with new learning and memory. The hippocampus can be 10% smaller in underage drinkers.



SLUGGISH SYSTEM *

The **central nervous system**, made of the brain and spinal cord, is slowed down by alcohol.



AUTOMATIC FUNCTIONS

The **hypothalamus** and **pituitary** releases hormones and coordinates automatic brain functions. Alcohol can lead to problems with attachment, fatigue, sleep and circadian rhythms.



CLUMSINESS

The **cerebellum** controls awareness and co-ordination. Alcohol can affect co-ordination and balance, slow reflexes, and cause shakes and tremors. This can lead to accidents and injuries.



VITAL FUNCTIONS

The **medulla** controls several vital life functions. Alcohol depresses the medulla and can chill the body, slow our breathing, and lower our heart rate.