Please note: The information given on this page is not medical advice and should not be relied on in this way. Individuals wanting medical advice on this issue should consult a health professional.

Several studies now show that regular use of methamphetamine can have negative long-term impacts on the heart and brain.\(^1\),\(^2\),\(^3\),\(^4\),\(^5\) Specifically, regular methamphetamine use can increase the risk of cardiovascular disease (CVD) later in life,\(^2\),\(^5\) as well as increase the risk of developing Parkinson’s Disease.\(^3\),\(^4\) However, there are ways to manage and reduce the risk of harm to people who have previously used methamphetamines.

**What is methamphetamine?**

Methamphetamine is a form of amphetamine, which is a stimulant drug. This means that it speeds up the messages travelling between the brain and the body.\(^6\) Methamphetamine is being increasingly used in crystal form (ice), and is stronger, more addictive and therefore has more harmful side effects than the powder form (speed).\(^7\)

People who use crystal methamphetamines regularly may experience dependence, become susceptible to mental health problems, and if taken in high doses can have episodes of psychosis.\(^8\) These effects are generally short-term, so if the person stops using crystal methamphetamine, they will stop feeling these effects.\(^8\)

**Impact of methamphetamine on the heart**

It has now been established that longer-term regular use of methamphetamine can result in an increased rate of CVD,\(^5\) which refers to all diseases and conditions that involve the heart and blood vessels\(^9\). Specifically, regular methamphetamine use can cause hypertension, stroke and an enlarged heart.

It has been found that men under the age of 45 who have a history of regular methamphetamine use are experiencing a disproportionate rate of CVD, specifically stroke.\(^2\),\(^5\)

Since most methamphetamine use is associated with younger people,\(^2\) the existing prevalence of CVD among this younger group is expected to increase over time, due to the relatively recent increase in methamphetamine use in Australia.\(^2\),\(^5\),\(^10\) However, these risks can be managed using the following preventative measures for people who have a history of methamphetamine use:\(^11\)

- Measuring blood pressure and being aware of when it is high. This is a common risk factor and can be easily managed.
- Quit smoking
- Eat a healthy diet with plenty of fruit, vegetables and whole foods.
- Be active every day
- Limit alcohol intake

There is a range of medical conditions that can also increase the risk of stroke, such as type 2 diabetes, transient ischemic attack (mini-stroke) or an irregular pulse.\(^11\) Being aware of these conditions and getting help from medical practitioners can significantly reduce the risk of stroke.

**Impact of methamphetamine on the**
Impact of methamphetamine on the brain

Methamphetamines affect the region of the brain that is often referred to as the ‘pleasure centre’, increasing the production of dopamine (a neurotransmitter), creating an intense feeling of euphoria.\(^1\) It has been shown that regular methamphetamine use can affect the normal function of dopamine-producing brain cells.\(^1,3,4\) In the short-term, this means that people who use methamphetamines regularly may need to use higher doses and more frequently to have the same effect.\(^10\) It can also result in the person having trouble with enjoying something as much as they did before methamphetamine use, such as a favourite meal.\(^10\)

Although studies have shown a correlation between the effect of methamphetamine on the brain and increasing risk of Parkinson’s disease later in life,\(^10\) recent studies have been able to show the physical impacts using brain imaging technology.\(^3,4\)

Parkinson’s is a progressive neurological condition which is characterised by its effects on motor systems of the body (responsible for movement via the central nervous system) and non-motor symptoms (such as mood disorders) over an extended period.\(^12\) It is not clear what causes Parkinson’s disease,\(^12\) but some research shows that genes and environmental factors play a role.\(^13\) Parkinson’s affects the structure of the brain cells that produce an important neurotransmitter called dopamine.\(^12,13\) This means that over time, the structure of the brain for someone with Parkinson’s will undergo significant changes, ultimately affecting their ability to function.\(^13\) For people who have previously used methamphetamines, it has now been demonstrated that the same parts of the brain are permanently changed and may mean that they have in increased risk of developing Parkinson’s disease.\(^3,4\)

Even though there is no cure, people who have used methamphetamines regularly can manage their risk of developing Parkinson’s by seeing their general practitioner to determine their level of risk and if necessary, manage the symptoms.\(^13\)

What about medically prescribed amphetamines?

If someone is using medically prescribed amphetamine (such as Ritalin) to treat attention deficit hyperactivity disorder (ADHD), the consequences on the heart and brain are not considered to be as much of a risk because the dosages are much lower than illicit amphetamines.\(^1\)

Getting help

If you or someone you know needs help, you can call DrugInfo for free, confidential information about alcohol and other drugs, or to connect to a relevant service provider.

References


