Te Whatu Ora
Health New Zealand
Waitematā

CADS COMMUNITY ALCOHOL & DRUG SERVICES Te Wai Awhina Rongoatia O Tamaki

Facts about Nitrous oxide

N2O/NOS, nangs, laughing gas

Nitrous Oxide (N2O/NOS) has been used for recreational purposes since the 18th century. While the occasional inhalation of a canister/ *charger* appears to be of low risk for most people there can be some very nasty consequences from excessive NOS sessions, heavy regular use, or when used in unsafe ways. Supply of nitrous oxide for recreational purposes is illegal.

Harms associated with Nitrous Oxide

People run the risk of oxygen deprivation if they don't take long enough breaks when inhaling NOS. The intoxicating effects of NOS can upset the brain systems that regulate breathing so the user is unaware they are not getting enough air. Being deprived of oxygen can lead to unconsciousness, potential brain damage, and death from forgetting to breathe while using the gas.

The different ways of inhaling the gas also present risks. The most dangerous is direct inhalation from a NOS tank/cylinder or from a NOS canister/charger connected to piercing equipment. NOS tanks are usually intended for medical use so very few people will have access to them; more popular and easily accessible are NOS canisters/ chargers.

Inhaling directly from a cracker (equipment used to puncture the canister/charger) has two main risks:

- Frostbite or tissue damage to the lips, throat and the more serious risk of frostbite to the vocal chords because the gas is very cold.
- Severe damage to the lungs due to the high pressure of the gas coming out of the canister/ chargers.

Reducing the harms

While there are some very practical harm reduction strategies to help reduce most of the short and long term risks, following this advice does not eliminate all risks, especially for long term heavy use of NOS. No use is always the safest option.

- Get informed. Know what you are using; learn about the risks involved and how to manage and reduce them
- Never inhale directly from the charger. Use balloons to inhale the gas. This reduces the risk of potentially fatal lung damage from NOS pressure, as well as the risks associated with cold gas
- Taking long breaks between inhalations reduces the chance of brain damage, unconsciousness, coma or death and increases the available oxygen level in the blood which is depleted when inhaling NOS
- Keep NOS sessions to only a few canisters/chargers each (not a few boxes)
- Avoid NOS prepared for the automotive industry or any homemade NOS preparations as these can contain other substances that can have serious health consequences
- Dancing in hot clubs for long periods of time while using NOS or stimulants like 'P' or 'E' can increase the risk of hyperthermia (dangerously high body temperature)

- Avoid combining NOS with other drugs. This includes stimulants (as mentioned above) and sedative/ depressant drugs (e.g. alcohol, opiates, benzodiazepines, Ketamine, GHB) which increase the risk of overdose

  Drugs which reduce blood pressure (e.g. Viagra & amyl nitrate/*Rush)* are especially dangerous in combination with NOS, as blood pressure could drop so low as to cause death from lack of blood to the heart and brain

- Never use a facemask or other equipment that attaches to the head if inhaling NOS from a tank. If you lose consciousness gas will continue to be inhaled, significantly increasing the possibility of death
- Never use NOS in a confined space like in a car or around open flames or ignition sources like lighters/ cigarettes
- A minimum of 3 days between NOS sessions is advisable to reduce the possibility of reversed tolerance and possible overdoses.

What Nitrous Oxide does

Nitrous acts as a depressant; it slows down your brain and your body's responses. The effects from inhaling NOS come on immediately and peak within a few seconds. They can last about a minute though will last longer with repeated inhalations.

Effects vary depending on how much has been inhaled. Usually people experience a rush of euphoria, a spaced out feeling, dreamy sensations, disorientation, relief from pain, and temporary loss of balance and co-ordination. They may also end up in fits of giggles and laughter, hence the nickname 'laughing gas'.

Less noticeable effects such as relaxed muscles and reduced blood oxygen levels can last longer. Sometimes people experience mild audio and visual hallucinations (which may have a pulsating quality), and fixated or tunnel-like vision.

Tolerance and dependence

Tolerance usually develops the more often a drug is used; people need more of the drug to get the same effects the more often they use it (without having a break).

With NOS though, the opposite happens. The more often it is used within a short time frame the more out of it people get. The danger of this is that during prolonged NOS sessions, users can sedate or anaesthetise themselves to a point where vital functions like breathing and heartbeat stop.

Long term effects

NOS is not generally considered to have a physiological dependency potential in the same way as nicotine, heroin and many other drugs however, it is possible to become psychologically dependent on using NOS, as many users love the buzz.

The more often and the more intense the use, the more likely it is that serious health problems will develop. Most of these potential problems seem to relate to depleting levels of essential body amino acids and vitamins (especially B12). This can cause damage to the brain, spinal cord, and bone marrow, leading to long term neurological or immunity and blood related problems.

Heavy prolonged use can make people more susceptible to infections due to a decrease in immunity, plus it can decrease fertility. People may also experience significant changes in their emotions and personalities which is probably due to central nervous system damage and/or oxygen deprivation.

Looking for help?

If you're looking for more information, or maybe want to talk to someone about nitrous or other drug issues for yourself or someone close to you call Auckland CADS on 0800 845-1818

For confidential advice, support or information contact Alcohol & Drug Helpline on 0800-787-797 10am to 10pm daily