



A QUICK GUIDE TO NITROUS OXIDE

Nitrous oxide is the third most commonly used drug, according to NHS data, and laughing gas – as it is sometimes called – never seems far from the headlines. But the lighthearted nickname belies the harm this drug can cause. This quick guide, developed in conjunction with Tooled Up Education, covers the most important things that parents and carers need to know about nitrous oxide, as well as signposting to further sources of information.



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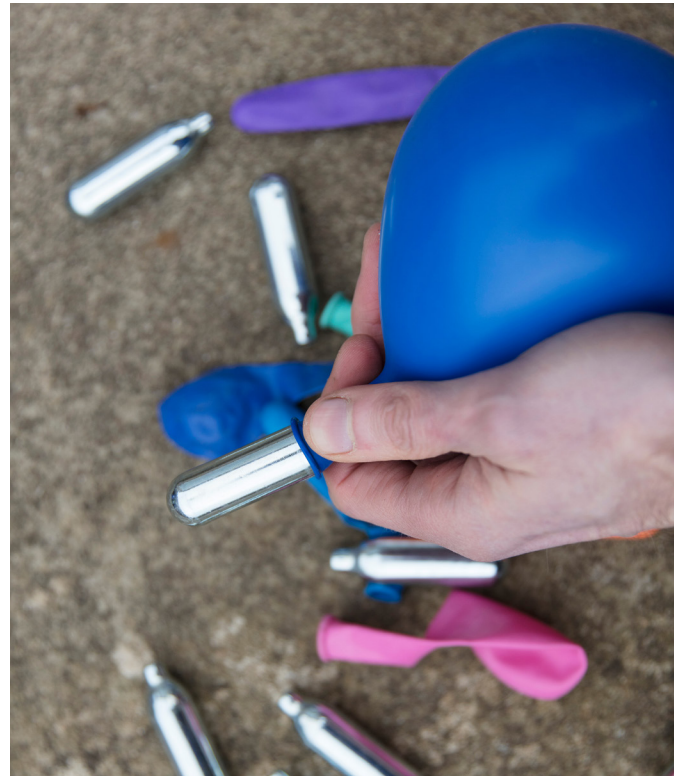
The drug education charity

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WHAT IS NITROUS OXIDE?

Nitrous oxide is a colourless gas sold in canisters, some small and some quite a bit bigger. It is known by many different names, including **nos** (an abbreviation of nitrous oxide), **smart whip** (a brand name), **whippits** (a derivation from smart whip), **balloons** (the receptacle from which nitrous oxide is commonly inhaled), and **chargers** (the device used to transfer nitrous oxide from its original packaging to a balloon).

Perhaps one of the most common nicknames is **laughing gas**, because it can bring on fits of giggles in users, but this can have the unintended consequence of downplaying the harms that nitrous oxide can cause. Laughing gas is also a term used medically, but actually refers to a mixture of nitrous oxide and oxygen (hence its other common name “gas and air”) which is employed as a painkiller and anaesthetic, for example during childbirth and dental procedures. This healthcare association can also lend nitrous oxide an unwarranted sense of safety. Inhaling nitrous oxide directly from the canister is very dangerous, because the gas is under very high pressure and is extremely cold. For this reason, it tends to be transferred to and inhaled from a balloon.



WHAT EFFECTS DOES IT HAVE?

Nitrous oxide has a range of effects, from relaxation and euphoria to visual and auditory distortions as well as dizziness and lightheadedness.

These normally wear off very quickly – within a few minutes at most – but this in itself is an issue, as there can be a strong temptation to try and prolong the effects, for example by inhaling the gas in an enclosed space (this is sometimes called hotboxing), or to redose, which brings with it the risk of losing consciousness or suffocating from lack of oxygen. Between 2010 and 2020, 45 death certificates filed in England and Wales mentioned nitrous oxide, according to the [Office of National Statistics](#).

One of the most immediate risks of nitrous oxide use is physical injury due to fainting or falling, but heavy use can lead to some severe health issues such as vitamin B12 deficiency which can cause anaemia and nerve damage. The symptoms of the latter can be mild, for example, tingling and numbness in the fingers and toes, but it can become severe, causing discomfort, pain and even **paralysis**, which may not be reversible.

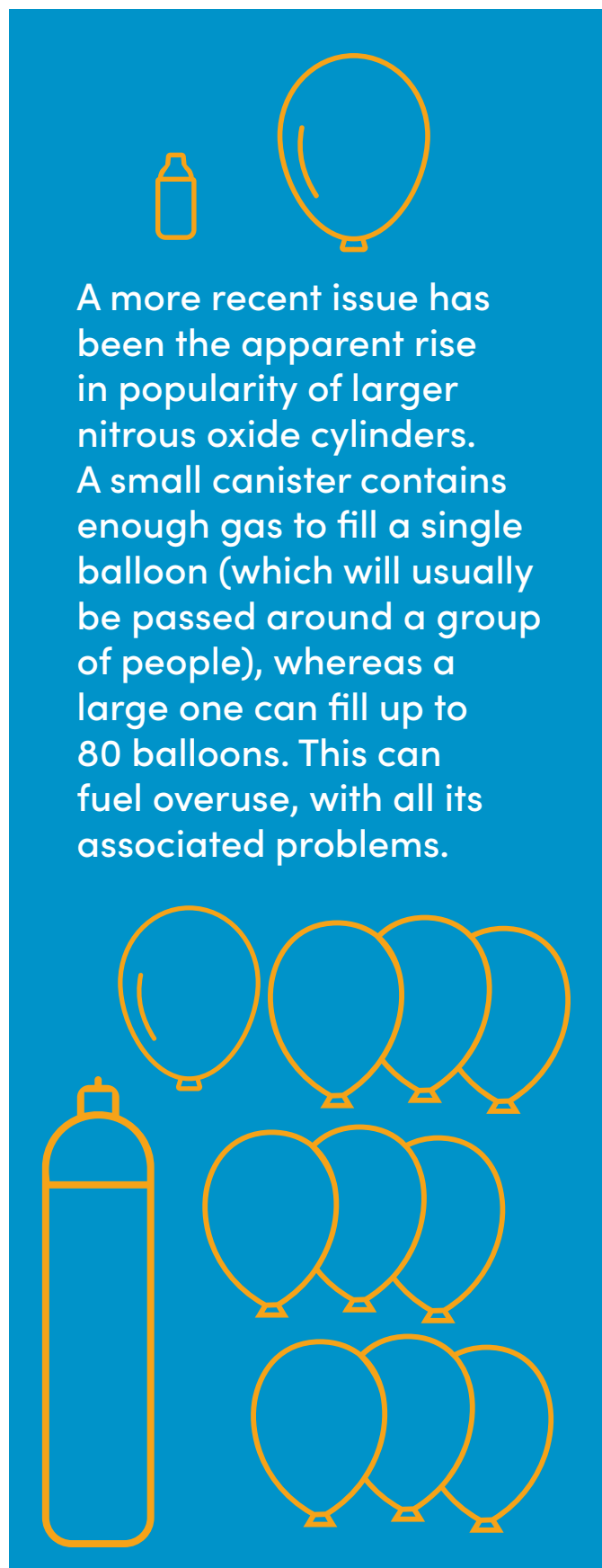


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WHAT'S THE PROBLEM?

[NHS data](#) shows nitrous oxide to be the third most commonly used drug by 11-15 year olds (behind volatile substances such as aerosols and solvents, and cannabis). Data from surveys of 15-18 year olds conducted by the drugs education charity the DSM Foundation supports this trend in older teenagers as well, as does the Crime Survey for England and Wales published by the [Office of National Statistics](#) which collects drug misuse figures for adults.

In the UK, the legal situation is complicated, with nitrous oxide covered by the [Psychoactive Substances Act](#) rather than the Misuse of Drugs Act, under which sit many substances used recreationally. This legal nuance means that it is illegal to supply nitrous oxide for its psychoactive effect, but availability is retained for legitimate purposes, for example as a fuel additive or culinary propellant (most commonly for whipped cream) as well as healthcare situations. This basically amounts to possession of nitrous oxide NOT being a criminal offence, though the UK government has announced [plans](#) to both criminalise possession and to tighten up controls on retailers. At the time of writing, no date had been set for these legislative changes.



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WHAT IS THE IMPACT?

As well as the risks already described, there are some circumstances under which the dangers increase:

- Individuals with heart conditions and blood pressure abnormalities who use nitrous oxide have a higher risk of cardiac arrest.
- Anyone who has asthma or similar conditions affecting the airways is more likely to experience tightness in the chest and shortness of breath and won't necessarily have the clearheadedness and dexterity to locate and use their inhaler.
- Mixing with other substances is always inadvisable, but specific issues associated with nitrous oxide include an increased risk of unpredictable alterations to heart rate and blood pressure with stimulants (such as ecstasy and cocaine) and depressants (for instance alcohol), and some people have reported amplified – and potentially much more frightening – hallucinogenic effects when mixing nitrous oxide with psychedelic drugs such as LSD and magic mushrooms.
- Mixing nitrous oxide with alcohol – and many other drugs – brings with it an increased risk of accidents, due to loss of feeling, reduced pain perception and difficulty moving.
- The short-lasting effects of nitrous oxide coupled with the availability of larger containers means that users may be tempted to take multiple doses over a short period of time. Not only does this increase the risks, as already outlined, but also the chance of psychological dependence – and this is greater in people who have existing mental health conditions or who are using nitrous oxide as a [coping strategy](#).
- Road traffic accidents are a real risk for those either intoxicated or trying to fill balloons while driving. The incidence of these in the Netherland has been a significant factor in the decision made by the government there to [outlaw nitrous oxide](#).



WHAT CAN PARENTS DO?

Parents and carers have a significant role to play in helping their children make decisions about drug use, including nitrous oxide.

Here are some tips:



Be aware of how easy it is to access drugs.

Nitrous oxide is cheap and widely available (including from mainstream online retailers), which, coupled with a false sense of safety, means using it can seem like no big deal.



Keep an eye out for paraphernalia.

The cracker device used to transfer nitrous oxide from a canister to a balloon is one of the more common items of drug paraphernalia, so finding one warrants a conversation with your child.



Explore beliefs about motivations for drug use...

Curiosity and experiencing the effects are commonly cited reasons for using drugs, but so are boredom, peer pressure and wanting to forget problems – a potentially destructive coping mechanism.



... and don't shy away from talking about dependence.

Any drug can be [addictive](#), whether physically, psychologically or both, and appreciating this potential can be powerful.



Discuss recent and impending changes in the law.

Combat the belief that nitrous oxide is a legal high by pointing to the UK government's decision to [make possession a criminal offence](#) and the recent decision by the Netherlands to [outlaw it completely](#). It is worth pointing out that supply is already illegal, including to friends.



Highlight the environmental impact.

Nitrous oxide is [a potent greenhouse gas](#) – 300 times more destructive than carbon dioxide – and discarded canisters and balloons are unsightly and [a threat to wildlife and the environment](#).

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WHERE CAN I GO FOR MORE INFORMATION?

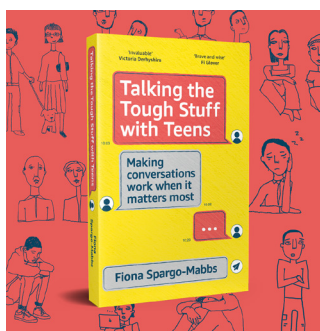
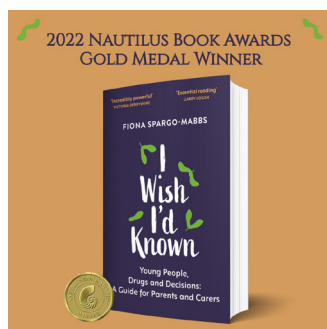
Healthy, open, non-judgemental conversations with young people can be – literally – life-saving.

Fiona Spargo Mabbs OBE, founder and director of the **DSM Foundation** has written two books that are packed with advice and information.

Award-winner,

[I Wish I'd Known](#)

interweaves the story of one family's terrible loss with calm, measured and practical suggestions for parents about young people, drugs and decisions.



[Talking the Tough Stuff with Teens](#)

draws extensively on hundreds of conversations with young people and parents in

focus groups and school and college workshops, to give a warm and compassionate framework for tackling tough conversations about difficult things, without judgement or anger. It covers everything from curfews and screen time, to sex, self-harm and suicide.



Resources to check out

[The DSM Foundation](#), our drugs education charity, has a number of resources to support parents and carers in their conversations with young people about nitrous oxide including [information on teenage brain development and the impact this has on decision making](#).

[Talk to Frank](#) has useful [information on nitrous oxide](#), [harm reduction advice](#) is available from [Crew](#), and the organisation [Re-Solv](#) has [information](#) on both of these aspects.

The charity [Rethink Mental Illness](#) has published a [factsheet](#) on drugs, alcohol and mental health.

Information on cannabis, including detailed knowledge on legal status as well as a summary of therapeutic uses, is available from [DrugWise](#).

Remember that none of the resources listed here are a substitute for clinical advice and if you are worried about your child, your first port of call should always be your GP (or other relevant medical professional).

[Tooled Up Education](#) is thrilled to be collaborating with the DSM Foundation. Tooled Up brings evidence-based resources to school communities and enjoys strong relationships with some of the most respected researchers and organisations in the world. The Tooled Up Team dedicates its time to studying thousands of hours of research evidence and turning this into easy to use resources, in the form of videos, articles, podcasts, activities and tips to try.