

Alcohol Interaction with Other Drugs



Alcohol Fact
Sheets for
Health
Professionals

Key points:

Alcohol is a potent central nervous system (CNS) depressant.

The combination of alcohol and other drugs can have unpredictable and potentially dangerous effects. When alcohol is used with other depressants such as benzodiazepines or heroin, it can lead to coma or death. When used in conjunction with stimulant drugs it can lead to a false sense of sobriety.

The more drugs taken in combination with alcohol, the harder to predict the effects the combination may have on the user.

Alcohol (ethanol alcohol) is one of the most widely used drugs. It is a potent central nervous system (CNS) depressant. A CNS depressant works by slowing down the brain and nervous system.^{1,2} This may induce a variety of behavioural changes.³

Alcohol may interact with other drugs such as benzodiazepines, opiates, minor analgesics, amphetamines, cocaine, barbiturates, hallucinogens, antibiotics and antihistamines.

Taking more than one drug in combination is often referred to as poly-drug use. The interaction of drug combinations can affect the individual in many ways. The term 'interaction' can be defined in this instance as an alteration in the pharmacological properties of one drug by the presence of another.⁴

There are a number of recognised interactions between alcohol and other drugs such as:

- Direct effect on absorption
- Effects on metabolism
- Interference with the effect of the drug at its site of action.⁴

Thus, there are unpredictable effects and potential dangers involved in mixing alcohol with other drugs.

People may combine alcohol with other drugs because of lack of knowledge about the potential effects, especially the effects from mixing alcohol with prescription or over-the-counter drugs such as antibiotics, analgesics or antihistamines. Others may make a conscious decision to combine drugs to seek enhanced effects. It is important to note that it is not only illicit drug users who combine alcohol with other drugs. Many people combine other legal drugs with alcohol for the same reasons that illicit drug users do, that is, to enhance the effect of the drug.

Types of Interaction

Alcohol and other depressant drugs

The effects of alcohol potentiate or are additive with those of other CNS depressants. This can result in increased sedation and greater impairment than might be expected when driving and engaging in other activities.^{3,4,5} Other effects may include the depression of respiratory or cardiac functions. This can result in unconsciousness and even death.^{3,4}

Alcohol interaction with:

Benzodiazepines

Alcohol increases the rate of absorption of benzodiazepines and can intensify the CNS depressant effects of benzodiazepines. The most prominent of these effects are sedation, impaired reaction time and coordination, and memory loss.^{1,2,3,11} The risks associated with

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tasks involving fine motor coordination and concentration such as driving a vehicle and handling or operating machinery are increased. The risk can be heightened because the user may be unaware of being affected.¹

Minor analgesics

Minor analgesics such as paracetamol and aspirin are used to relieve mild pain and include various over-the-counter and prescription preparations. Taking aspirin and alcohol together can increase gastrointestinal blood loss and damage the mucosal lining of the stomach.^{4,6} Some analgesic preparations contain additional ingredients that can also interact with alcohol causing drowsiness, such as small amounts of codeine and antihistamine.⁶

Opiates

When alcohol is taken with opiates such as morphine, heroin, codeine, pethidine or methadone there can be an increase in the CNS depressant effects of these drugs.^{4,6,7} Approximately one in four opiate deaths involve a combination of opiates and alcohol.¹²

Barbiturates

When alcohol and barbiturates are taken together, they can seriously exaggerate the CNS depression, resulting in impairment of coordination and driving ability.^{3,5} The potential for overdose is very high – this combination can lead to a reduction in the level of consciousness and suppression of vital functions such as respiration.⁴

Other depressant drugs

Cannabis is not strictly a depressant as it can have both depressant and hallucinogenic effects. When used in combination with alcohol it can decrease alertness and motor and intellectual skills.^{3,5}

Little is known about the interaction of alcohol and volatile substances, however an additive effect is probable.⁸

Alcohol and stimulant drugs

Stimulant drugs such as amphetamine and cocaine, when used in conjunction with alcohol may cause temporary arousal.³ The use of amphetamine may be accompanied by heavy alcohol consumption. When using amphetamine or cocaine with alcohol, the number of alcoholic drinks required to feel intoxicated is greatly increased. However, reduced performance of the psychomotor skills still occurs.⁹ The body must also cope with the after-effects of alcohol as well as those produced by the stimulant drug. This means that the negative effects of 'coming down' are increased with this combination of drugs, in particular anxiety and depression.⁹

Alcohol and hallucinogenic drugs

There is little information on the interaction of hallucinogens with alcohol. However, it is known that mixing alcohol with hallucinogens is unpredictable and the effects of both drugs may be intensified.¹⁰

Alcohol and other medicinal drugs

There are some antibiotics, for example metronidazole and tinidazole, that react with alcohol. The combined use of these drugs and alcohol may lead to headache, nausea and flushing. Alcohol can also lower the effectiveness of antibiotics and anti-viral drugs.^{4,5}

The interaction of alcohol and antihistamines appears to impair psycho-motor performance. The drowsiness caused by some antihistamines can be increased when they are taken with alcohol.^{1,4}

Some anti-inflammatory drugs such as ibuprofen and indomethacin significantly increase bleeding time when taken in combination with alcohol.¹

Alcohol can also affect other frequently prescribed drugs such as antidepressants, cimetidine (gastro-intestinal treatment) and hypoglycaemia agents such as glibenclamide, tolbutamide and metformin.¹

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