



**WHAT'S  
THE  
SCORE?**

# **THE FACTS ON ALCOHOL AND OTHER DRUGS IN SPORT**

REVISED



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This booklet provides some basic information on alcohol and other drugs from a sports perspective. It has been written to provide information particularly relevant for anyone who plays, or has an interest in, sport. In particular, it has been developed with two audiences in mind:

- elite athletes, their coaches and support team
- adolescents who play sport at a non-elite level, their parents and coaches

In recent years, sporting organisations have worked hard to provide education to their elite athletes in the alcohol and other drug area. This resource has been designed to complement that work.

Those young people who do not reach the elite level in the sport of their choice also benefit from their participation in many ways, with studies showing that being involved in sport can lead to:

- improved self-esteem
- being better able to handle stress
- increased academic performance
- better relationships with family

At the same time, involvement with organised sport also offers an opportunity for providing information about the benefits associated with not using illicit drugs and responsible drinking. It is hoped that this resource will assist with delivery of accurate and up-to-date information.

# ALCOHOL AND OTHER DRUGS IN SPORT

Alcohol and other drugs are a part of our society. Drugs can be classified in many different ways, but from a sports perspective, they are usually regarded as being in one of three categories:

- **restorative drugs** such as painkillers and anti-inflammatory drugs
- **performance-enhancing drugs** such as anabolic steroids, human growth hormone or EPO
- **'social drugs'** that are usually broken down into legally available products such as alcohol and tobacco, as well as a range of illicit drugs including cannabis, ecstasy and LSD

This booklet will not be dealing with the first two categories, instead it will provide information on a range of 'social drugs', which may be legal or illegal, with which Australian sports people may come into contact some time during their lives.

Many young people use alcohol and tobacco at some point in their lives, with the majority of those continuing to drink regularly. Far fewer experiment with illegal drugs, cannabis being the most widely used illicit drug in Australia.

As far as elite sportspeople are concerned, available evidence suggests that use of illicit drugs such as cannabis and ecstasy amongst that group is much lower than in the general population. Elite athletes are subject to regular drug testing and as a result most choose not to risk using these type of substances when competing at the professional level. Those elite sportspeople

who do choose to use illicit substances tend to do so outside of competition time to avoid the testing regime.

Although there are exceptions, young people who are involved in organised sport are also less likely to have experimented with illegal drugs for the most part, with participation in sport during the teenage years often being identified as a protective factor against drug use.

The use of alcohol by elite athletes, however, is commonplace but patterns of drinking are often different from their peers in the general community. Few drink regularly, but unfortunately when they do, they often drink a great deal in a very short time and this can find them getting into trouble. As elite athletes generally do not drink as regularly as their peers, they are often less likely to build a tolerance to the effects of alcohol and may find themselves more affected than counterparts in the general community.

There is little evidence on the drinking behaviour of non-elite athletes, but there has been a long association between alcohol and sport in Australia and many sporting clubs have strong relationships with alcohol companies or bars and clubs, so unfortunately in many parts of the country alcohol and sport continue to go hand-in-hand.

With that in mind, let's firstly examine alcohol and the impact it can have on sporting performance.

Alcohol is a drug that slows down the brain and the nervous system. The active drug contained in all alcoholic drinks is ethanol. This drug is produced as a result of fermentation of grains (beer), vegetables (vodka) and fruits (wine), changing sugars into ethyl alcohol. Pure alcohol has no taste and is a colourless liquid. Alcoholic drinks vary in appearance and taste due to the other ingredients contained within them and as a result of the method of manufacture.

## WHAT ARE THE SHORT-TERM EFFECTS OF ALCOHOL?

The short-term effects of using alcohol may include:

- **loss of inhibitions**
- **flushed appearance**
- **lack of co-ordination and slower reaction time**
- **blurred vision and slurred speech**
- **aggression**
- **vomiting**
- **at high doses - coma and death.**

Alcohol is absorbed directly into the bloodstream through the walls of the stomach and small intestine. It is then quickly distributed to all parts of the body, including the brain. The liver is the main organ of the body responsible for removing alcohol from the bloodstream.

## WHAT ARE THE LONG-TERM EFFECTS OF ALCOHOL?

The long-term effects of excessive alcohol use may include:

- **liver, heart and brain damage**
- **poor work performance**
- **legal and financial difficulties**
- **family and relationship problems**
- **sexual impotence and a reduction in fertility**
- **concentration and short-term memory problems.**



Many people believe that health problems related to alcohol only occur for those people who drink every day. However, people who drink in binges (i.e. they drink little or nothing most of the time and on occasion drink very heavily) can have severe problems, both short and long-term, related to the alcohol they drink. Bingeing can cause alcohol poisoning (causing death in extreme cases) as well as result in a range of social problems such as violent behaviour, car accidents and sexual assault in the short-term. In the long-term, this type of drinking can cause significant physical and psychological damage, just as it may for daily drinkers. Research shows that athletes typically consume alcohol in binges following exercise and competition.

## WHAT ARE THE EFFECTS OF ALCOHOL ON SPORTS PERFORMANCE?

There is a great deal of research on the effects alcohol has on sporting performance and recovery. As a result, alcohol is not considered to be a performance-enhancing substance. Its effects depend upon a number of factors, including how much and how fast one drinks, the individual's size, how much food is in the stomach and, of particular importance to sportspeople, how close alcohol has been consumed to engaging in physical activity.

The effects of alcohol are directly related to the concentration of alcohol in the blood; however, the effects vary among individuals and even in the same individual at different times.

Few athletes use alcohol before exercise as the negative effects of alcohol on performance are well known and include:

- **lack of balance and steadiness**
- **reduction in reaction time**
- **impaired hand-eye coordination**
- **loss of fine and complex motor skills**
- **decrease in decision-making effectiveness.**

Unfortunately the effect of binge drinking after exercise is not appreciated fully by many athletes. It is believed that athletes who binge drink after a practice or a game may subsequently have an impairment of athletic skills for as long as 14 hours. Hangovers can result in symptoms of headaches, nausea, diarrhoea, fatigue, dehydration, and body aches that can also diminish athletic performance. Excessive alcohol consumption following exercise is likely to:

- **interfere with speedy rehydration**
- **delay repair of soft-tissue injuries sustained during exercise**
- **disturb regular sleep patterns**
- **interfere with the general recovery process.**

In addition to the direct physical effects, binge drinking after exercise may:

- **distract you from carrying out appropriate recovery strategies to help the body refuel and rehydrate**
- **relax your attitude towards less desirable food choices**
- **increase your risk of violence or being involved in a brawl, leading to adverse publicity**
- **place you at risk of serious injury or death**
- **increase your risk of other drug use.**

Research suggests that exercise performance is impaired during the 'hangover period' following a binge drinking session.

Tobacco smoke is a mixture of almost 4000 different chemical compounds, including tar, nicotine, carbon monoxide, acetone and ammonia. Nicotine is one of the most addictive substances and most powerful poisons known. It is a stimulant, restricting the flow of blood and causing blood pressure to rise. Tar is released when a cigarette burns and can stimulate the growth of some cancers, particularly in the mouth, lungs and throat. Another compound found in cigarette smoke, carbon monoxide, is an odourless, colourless and toxic gas that is also found in car exhaust fumes

# TOBACCO

## WHAT ARE THE SHORT-TERM EFFECTS OF TOBACCO?

The short-term effects of using tobacco may include:

- increased pulse rate
- temporary rise in blood pressure
- increased acid in the stomach
- brain and central nervous system activity stimulated then reduced
- decreased blood flow to body extremities
- dizziness and nausea
- watery eyes

## WHAT ARE THE LONG-TERM EFFECTS OF TOBACCO?

The long-term effects of tobacco use may include:

- diminished or extinguished sense of smell and taste
- increased risk of colds and chronic bronchitis
- increased risk of emphysema
- increased risk of heart disease
- premature and more abundant face wrinkles
- increased risk of cancer of the mouth, larynx, pharynx, oesophagus, lungs, pancreas, cervix, uterus and bladder

## WHAT ARE THE EFFECTS OF TOBACCO ON SPORTS PERFORMANCE?

Tobacco is far less likely to be used by those who wish to play sport at any level, purely due to the impact that smoking has on sporting performance and health in general.

Two major components of cigarette smoke – carbon monoxide and nicotine – have particularly negative effects on exercise. Carbon monoxide reduces the amount of oxygen being carried to the muscles and other parts of the body. Nicotine suppresses the ability to reach the maximum heart rates required for maximum performance

In addition, research shows:

- **during endurance tests smokers give up earlier due to fatigue, exhaustion, shortness of breath or leg pain**
- **in endurance runs smokers run slower**
- **the more cigarettes smoked, the worse the performance**
- **smokers perform worse than non-smokers in tests of muscle endurance**
- **smoking is detrimental to fitness, even in relatively young, fit individuals**

**IT IS IMPORTANT TO REMEMBER THAT ALL THE REST OF THE DRUGS DISCUSSED IN THIS BOOKLET ARE ILLEGAL. IF YOU ARE CAUGHT IN POSSESSION OF ANY OF THESE SUBSTANCES YOU MAY RECEIVE A CRIMINAL RECORD, WHICH MAY RESULT IN A FINE OR A JAIL TERM. THIS NOT ONLY AFFECTS YOU, BUT ALSO YOUR FAMILY, FRIENDS, AND IF YOU ARE AN ELITE ATHLETE, YOUR TEAMMATES AND SPORT.**

## WHY WOULD SPORTSPEOPLE USE ILLEGAL DRUGS?

Alcohol and tobacco are both legal substances available for adult Australians to purchase if they choose. People choose to use them for a variety of reasons, usually to have fun or for pleasure. If someone has been smoking for a while, their reason for use is often because they have become addicted to nicotine.

When we ask people why they choose to use illegal drugs, their reasons are usually fairly similar and include the following:

- **to get 'high'**
- **to celebrate**
- **to relax**
- **social pressure**
- **to feel less shy or less tense**
- **to block out pain or bad feelings**

From the limited research we have on the use of illegal drugs by elite athletes we know that there are some unique reasons for their use and these include the following:

- the 'pressure cooker effect' – after long periods of heavy training and limited time to relax and socialise with friends, the opportunity to 'let off steam' and either celebrate success or commiserate a loss can lead to making risky decisions
- 'everybody else does it, why can't I?' – the belief that illicit drug use is the norm amongst young people and that they are missing out on typical behaviour due to a commitment to their sporting career
- being away from home and family support – playing at an elite level can mean long periods away from home and some athletes report that using drugs help them in social situations and increase their confidence



**Cannabis is an illegal drug derived from the cannabis plant (cannabis sativa). It is by far the most widely used illicit drug in Australia. The main active ingredient in cannabis is called delta-9 tetrahydro-cannabinol, an hallucinogenic, commonly known as THC. This is the component of the plant that gives the 'high'.**

Smoking is the most common way of taking cannabis. Young people typically smoke waterpipes ('bongs') or pipes and less frequently 'joints'. A 'joint' is a hand rolled cigarette containing cannabis and sometimes other substances, such as tobacco, to help it burn or to 'bulk it up'. A waterpipe or 'bong' uses water to cool the cannabis smoke before it is inhaled, but users may inhale more tar using this method. Pipes or bongs can be bought or made by the users. Cannabis can also be taken orally, either eaten 'raw' or mixed with food preparations or hot drinks. When eaten, however, the effects can be stronger and more unpleasant, since it is harder to control the dose.

## WHAT ARE THE SHORT-TERM EFFECTS OF CANNABIS?

The short term effects of using cannabis may include:

- **sleepiness**
- **loss of co-ordination and concentration**
- **loss of inhibitions and a feeling of well-being**
- **loss of short-term memory**
- **bloodshot eyes**
- **anxiety and paranoia**
- **increased appetite and dryness of the mouth and throat.**

## WHAT ARE THE LONG-TERM EFFECTS OF CANNABIS?

There is limited research on the long-term effects of cannabis. On the available evidence, the major probable adverse effects are:

- **increased risk of the symptoms of respiratory diseases associated with smoking such as bronchitis**
- **dependence**
- **decreased memory and learning abilities**
- **decreased motivation in areas such as study, work or concentration.**

Some people experience very unpleasant psychological effects when they use cannabis, such as severe anxiety or panic. At very high doses, confusion, delusions and hallucinations may also occur, but this is uncommon. Some people appear to be more vulnerable to the psychological effects of cannabis than others and are advised against using the drug. This is particularly true for people who have a family history of mental illness such as schizophrenia. There does not appear to be any good evidence that cannabis causes mental illnesses such as schizophrenia in those that are not at risk, but it does appear to unlock it in those who have a susceptibility.



**CANNABIS IS PROHIBITED IN ALL SPORTS IN COMPETITION AND IS ILLEGAL**

## WHAT ARE THE EFFECTS OF CANNABIS ON SPORTS PERFORMANCE?

Some of the problems that using cannabis can cause include:

- **decrease in reaction and hand-eye coordination**
- **reduction in motor coordination, tracking ability and perception**
- **impairment of concentration**
- **reduction in maximal exercise capacity resulting in increased fatigue**

Because cannabis is stored in the body fat, some believe that its effects may be longer-lasting. There is some evidence to indicate that performance skills can be impaired for as long as 24 hours after using the drug. It is also important for elite sportspeople to know that due to its high solubility in body fat, cannabis can be detected for as long as four to eight weeks by current drug testing methods.

As cannabis is the most widely used illicit substance there is the possibility that some people may come into contact with others that use the drug. It is important that all elite sportspeople are aware that under certain conditions, and depending on the amount of time the person spends with cannabis smokers, it is possible to inhale enough cannabis via passive smoking to test positive for the drug. However, most drug testing programs have established cut-off levels that prevent this from happening.



Cocaine is a stimulant which, in pure form, is a white crystalline powder with a bitter, numbing taste. This powder is called cocaine hydrochloride and is made by processing and treating the leaves of the coca plant originally found in South America.

Cocaine can be absorbed through any mucous membrane and is carried by the blood to the rest of the body to cause a sense of euphoria and excitement.

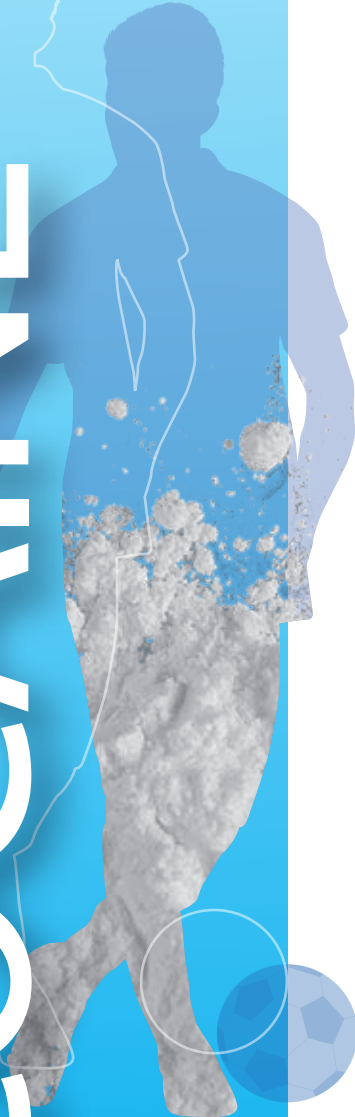
Cocaine is one of the most widely used illegal drugs in other parts of the world. Australia has much lower rates of use due to low availability and poor quality. It continues to be an extremely expensive drug and as a result is rarely used by young people.

## WHAT ARE THE SHORT-TERM EFFECTS OF COCAINE?

Cocaine has many short term effects, common ones include:

- **increased blood pressure, heart rate, breathing rate and body temperature**
- **increased alertness and energy**
- **extreme feeling of well-being**
- **sexual arousal**
- **dilated pupils**
- **loss of appetite.**

# COCAINE



**COCAINE IS PROHIBITED IN ALL SPORTS IN COMPETITION AND IS ILLEGAL**

## WHAT ARE THE LONG-TERM EFFECTS OF COCAINE?

The long-term effects include:

- **sleeping disorders**
- **sexual problems, often impotence**
- **snorting which can lead to nose bleeds, sinusitis and tearing of the nasal wall**
- **hepatitis or HIV infection through shared needles**
- **heart attacks, strokes and respiratory failure**
- **psychological problems like addiction, paranoia, depression and anxiety.**

Cocaine is very toxic to the heart, particularly when used with alcohol, as the mix produces a metabolite known as 'cocathylene'. As a stimulant cocaine will increase heart rate and blood pressure but could also cause myocardial infarction, cardiomyopathy, myocarditis, arrhythmia, and a host of potentially fatal conditions.

## WHAT ARE THE EFFECTS OF COCAINE ON SPORTS PERFORMANCE?

The few studies that exist suggest that there are few, if any, performance gains from cocaine use. Cocaine is notable for distorting the user's perception of reality; for example, an athlete may perceive increased performance and decreased fatigue in the face of actual decreased performance in both strength and endurance activities. An increase in heat production combined with a decrease in heat loss associated with cocaine abuse impairs the body's ability to regulate its temperature during physical activity.

Cocaine related deaths from heart failure of US basketball star, Len Bias and football player, Don Rogers in 1986 increased public attention to the harmful effects of cocaine use and abuse among athletes and the general population.

**Ecstasy is an illegal drug and is the commonly used street term for the chemical Methylenedioxyamphetamine (MDMA). It is structurally similar to methamphetamine or 'speed', but has quite different emotional effects.**

Ecstasy is sold as a tablet, a capsule or in powder form. Tablets are the most common form and may come in a variety of colours and sizes. These may carry a branded design such as a lightning bolt or crown, or well-known brands such as Mitsubishi, Calvin Klein and Rolls Royce. Despite this identification, there is no reliable method of determining the quality of the drug, since pills with the same stamp can vary widely in the content of MDMA and other substances.

**ECSTASY IS PROHIBITED  
IN ALL SPORTS IN  
COMPETITION AND IS  
ILLEGAL**

## WHAT ARE THE SHORT-TERM EFFECTS OF ECSTASY?

Short-term effects include:

- **euphoria and a feeling of well being**
- **feelings of increased closeness with others**
- **feelings of confidence and lack of inhibitions**
- **increased blood pressure and pulse rate**
- **sweating**
- **jaw clenching and teeth grinding**
- **nausea and anxiety.**

## WHAT ARE THE LONG-TERM EFFECTS OF ECSTASY?

Little is known about the long-term effects of ecstasy because of the paucity of research. Much of the research has been highly controversial but it is generally accepted that, particularly at high doses, some health problems might result.

- **memory and cognition problems**
- **depression**

## WHAT ARE THE EFFECTS OF ECSTASY ON SPORTS PERFORMANCE?

There has been little research conducted on the effects of ecstasy on sports performance, however we do know the following:

- **overheating and dehydration are two of the greatest problems associated with ecstasy use. MDMA has a direct effect on the body's ability to control temperature, so the body temperature increases no matter what the person taking the drug is doing.**
- **taking ecstasy after vigorous activity can be particularly dangerous if you are already dehydrated.**
- **many people who use ecstasy experience a 'comedown' in the days after taking the drug. This may result in the person who has taken the drug feeling physically exhausted, depressed, tired, irritable or paranoid.**
- **it can take some time for people to recover from ecstasy use and this can severely affect training and exercise programs.**



Methamphetamine belongs to a class of drugs that are called stimulants, or sometimes called psychostimulants. Methamphetamine is very closely related to amphetamine, and sometimes people still talk about using amphetamine, although most of what is sold on the street at the moment is actually methamphetamine. These drugs increase central nervous system activity producing effects similar to the body's naturally occurring hormone, adrenalin.

Methamphetamine can come in many different forms, and is often sold as a white to beige powder (usually called 'speed'), a damp or oily gluggy powder that users of the drug call 'base', and very high purity translucent crystals called 'crystal meth', 'ice' or 'shabu'. Ice has more powerful effects than the other powder forms of methamphetamine because of its higher purity.

## WHAT ARE THE SHORT-TERM EFFECTS OF METHAMPHETAMINE?

The short-term effects of using methamphetamine include:

- **euphoria and a feeling of well-being**
- **increased blood pressure and pulse rate**
- **sweating**
- **jaw clenching and teeth grinding**
- **agitation and anxiety.**

**METHAMPHETAMINE IS PROHIBITED IN ALL SPORTS IN COMPETITION AND IS ILLEGAL**

## WHAT ARE THE LONG-TERM EFFECTS OF METHAMPHETAMINE?

One of the most frequently discussed long-term effects of methamphetamine is 'speed psychosis'. Hallucinations, paranoid delusions and violent behaviour can sometimes occur. This state usually disappears after the drug wears off.

Other effects of long-term use appear to be:

- **sleeping problems including insomnia**
- **mood disturbances (e.g., depression and anxiety)**
- **social and financial difficulties**
- **weight loss**
- **dental problems (cracked teeth from grinding or jaw clenching)**
- **chest pain and increased risk of heart problems**

## WHAT ARE THE EFFECTS OF METHAMPHETAMINE ON SPORTS PERFORMANCE?

There are reports of athletes using amphetamines to increase alertness and increase excitement for an upcoming event. Using methamphetamine is particularly dangerous for people who are exerting themselves as it can put great strain on the heart.

Methamphetamine users will find it difficult to cool down after exercise. This in turn can result in dehydration which reduces blood circulation. The heart then has to work much harder to get the blood to go round the body. The body cannot cool down by sweating as there is little or no fluid to sweat and so the cycle repeats itself until the blood gets so thick in the system that the heart gives up.

Some high profile athletes have died after using stimulants in combination with exercise. In 1967 British cyclist Tommy Simpson died from complications resulting from amphetamine use during the Tour de France.

Another risk that athletes face if they use methamphetamine is related to water loss. Methamphetamine may cause the user to sweat less than normal and be unaware of fatigue, and this could subsequently lead to heat stroke.





# SAFER CELEBRATING

The legal drinking age in all Australian states and territories is 18 years. For many Australians, enjoying a drink is often a part of relaxing with friends or celebrating a special event or victory, particularly in a sporting context. Whether it is because of the relaxed environment or the social setting, sometimes we drink more than we intend.

If you are over 18 years and legally able to drink, no-one is asking you not to go out with your friends and team-mates and have a good time. However, it is important to stay as safe as possible by taking precautions and being aware of all the risks involved with celebrating.

**YOU NEED TO BE AWARE OF THE LAWS CONCERNING UNDERAGE DRINKING. THE LAWS DIFFER DEPENDING ON WHERE YOU LIVE IN AUSTRALIA, PARTICULARLY IN REGARDS TO THE PROVISION OF ALCOHOL BY ADULTS.**

## HERE ARE SOME SAFER CELEBRATING TIPS:

If you choose to drink alcohol, here are some practical tips that could help you celebrate a night out with friends or team-mates and stay as safe as possible:

- **Plan in advance.** Think about where you are going, who you will be with and how much you are going to drink. What do you need to do the next day?
- **Start with a water, juice or soft drink.** You will drink much faster if you are thirsty, so have a non-alcoholic drink to quench your thirst before you start drinking alcohol.
- **Drink slowly.** Sip your drink, don't down it in gulps! Whenever possible, put your glass down in between sips.
- **Eat before or while you are drinking.** Having food in the stomach slows down the rate at which alcohol can be absorbed into the bloodstream. Carbohydrate-rich foods are the best choice. Eating while you are drinking also slows down your drinking pace and fills you up, although it is always wise to avoid salty foods as these can make you more thirsty.
- **Pace yourself.** Space alcoholic drinks with non-alcoholic drinks.
- **Try to reduce the alcohol content of your drinks.** That is, choose low alcohol beers or drink spirits in large glasses of juice or soft drink.
- **Avoid 'rounds' or 'shouts'.** Drinking in a 'shout' with team-mates encourages you to drink at someone else's pace. If you do get stuck in this situation, buy a non-alcoholic drink for yourself when it's your turn.
- **Drink one drink at a time.** Don't let people top up your drink if you haven't finished it – it's a lot harder to keep track of how much you have drunk.
- **Keep yourself busy.** If you're occupied you tend to drink less. Have a dance, play pool – don't just sit and drink.
- **Be the designated driver.** If you have made the decision not to drink and are worried that there might be pressure from your friends or team-mates to have a few, let them know you are the designated driver. They will respect that decision and it will save them money in cab fares!
- **Don't leave your drinks unattended.** There continue to be reports of 'drink spiking' across Australia so always watch your drink and don't accept drinks from strangers.
- **Make sure you keep hydrated throughout the night.** Drinking water throughout the evening (having a glass of water after every alcoholic drink is the best) is the smartest option, however, some may find that too difficult. At the very least, make sure you drink some water before you go to bed in an attempt to rehydrate and prevent a hangover the next day.

# WHAT SHOULD YOU DO IN AN EMERGENCY?

If a person collapses and is unconscious, St John Ambulance Australia recommends people do the following:

- Check for danger to yourself and/or to the unconscious person.
- Check for a response by calling their name or gently squeezing their hand/shoulder.
- If there is a response, place them in the recovery position, check for any injuries and monitor them.
- If there is no response, call triple zero (000) for an ambulance.
- Check that the person's airway is clear. If not, remove anything from the person's mouth and tilt the person's head back to open the airway.
- Check breathing. If the person is not breathing, be prepared to immediately start cardiopulmonary resuscitation.
- Continue CPR until professional help arrives or until you are not able to continue any longer.
- Explain to paramedics taking over what has happened and what you have done. If you have the information, tell them what the person has taken and how long ago.
- Loosen any tight clothing that might restrict breathing.
- Keep the person comfortably warm with blankets or a coat.
- Do not give the person fluids.
- Do not leave the person until after professional help arrives.

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