

# Why cocaine is considered performance-enhancing for athletes, and why it matters when the athlete took it

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Australian Rules Football and illicit drugs have been in the media for all the wrong reasons recently.

Last year a [Melbourne Demons player, Joel Smith](#), and [two Sydney Swans AFLW players](#) were caught with [cocaine](#).

And added on top of all that is a claim tabled in federal parliament that [clubs have been protecting players from getting caught](#).

When it comes to the punishment for the player, it matters greatly whether they used it recreationally or to help them compete. So how is cocaine considered performance enhancing, and why does it matter when they took it?

## **What is cocaine and is it performance enhancing?**

Cocaine is an addictive and potent drug derived from the leaves of the coca plant. Even though it can be used medically as a local anesthetic for certain medical procedures, it is a highly regulated and [controlled substance](#) due to its high potential for addiction and abuse.

Once consumed, cocaine increases the level of a chemical in the brain called dopamine—a messenger molecular that is associated with pleasure and reward. A surge in dopamine is responsible for feelings of euphoria, heightened energy, and alertness, which makes cocaine highly sought-after for recreational purposes.

Furthermore, cocaine's ability to reduce [negative emotions](#), such as stress and anxiety, can contribute to its misuse as people seek relief from emotional distress.

When used during sport, cocaine is considered to have performance enhancing effects and is prohibited under the World Anti-Doping Code and listed under the [Substances of Abuse Category](#).

As a stimulant, cocaine can induce a powerful "rush", leading to

heightened alertness, excitement, and enhanced confidence. Athletes may use cocaine to improve focus, endurance, or to increase confidence, which it is claimed could provide them with an unfair advantage.

However, despite the perceived benefits, it is highly unlikely an athlete would use it for performance enhancement. This is because the duration of the euphoric sensation is relatively brief, maybe as [short as 15-30 minutes](#), and often followed by a rapid decline in mood and energy levels.

The cocaine would also likely affect their judgment and decision-making, an important aspect of ball sports. The player would also have to not be concerned about the [health risks](#) of using it—which include overdoses, headaches, dizziness and chest pain—and consider themselves unlikely to get caught from game-day testing.

## **Recreational (out of competition) vs. performance-enhancing (in-competition) use**

The two AFLW players, [Alexia Hamilton and Paige Sheppard](#), were deemed to have used the cocaine out of competition, and therefore recreationally.

They were caught in December 2023, after their team's season had finished in November. As a result, instead of a ban from competing, the court gave them 12-month conditional release orders, with no convictions recorded.

This is in line with the AFL code that states players receive a first strike, a suspended \$5,000 fine, counseling, and be subject to target testing. They were also later [suspended for two matches](#) by the AFL.

But the Demons' Smith may be facing a much harsher punishment because he tested positive to cocaine use on game day towards the end of the 2023 season. Because of this, he stands accused of using cocaine not just recreationally, but potentially for performance-enhancing reasons.

Under the [AFL's anti-doping code](#), a finding of using cocaine for performance enhancement could come with a four-year ban. If he was found to have used it for only recreational purposes, not on game day, the [ban would instead just be one or three months](#).

## **Can urine testing determine when someone took cocaine?**

To provide performance enhancement, cocaine would have to be used on the day of competition, so the exact day a player is determined to have taken it becomes very important.

Scientific instruments can very accurately measure the concentration of cocaine, and one of its key metabolites called [benzoylecgonine](#), commonly abbreviated as BZE, at the nanogram level in urine.

Intact cocaine can remain detectable in urine for periods up to [15 days](#), and [BZE can be detectable up to 25 days](#). So simple detection doesn't indicate use on the day of competition.

To determine the date of cocaine use, the concentration of intact drug in the athlete's urine, and possibly the BZE concentration, need to be considered. These values are compared with urine concentrations that have had been analyzed in scientific trials.

But there are fundamental flaws in making these comparisons to determine when an athlete took cocaine. This is because most of the

scientific studies test the wrong quantity of cocaine (usually they test [too small a dose](#)); study participants are administered cocaine in irrelevant ways (like [IV injection or smoking](#)); researchers often conduct studies on [chronic cocaine users](#), or the studies don't account for differences in the physical fitness of athletes from ordinary people.

With the currently available research data, it can only be determined with certainty that an athlete took a drug between the last time they tested negative and the date when they tested positive to cocaine.

With the exception of very high cocaine levels in their urine, it can't be determined whether they took it on game day or some day before until metabolism and excretion studies in elite athletes have been completed.

## **Why is cocaine still considered performance-enhancing?**

While it's unlikely an athlete can genuinely get an athletic edge on their rivals by taking cocaine, it is still on [Sports Integrity Australia's Prohibited List](#) because "all prohibited substances are added to the Prohibited List because they meet two of the three following criteria":

1. use of the substance has the potential to enhance or enhances performance
2. use of the substance represents an actual or potential health risk to the athlete
3. use of the substance violates the spirit of sport.

Athletes really are risking a lot for minimal (if any) athletic reward when they take cocaine—not just the [health risks](#), but the possibility of getting caught with a substance that is extremely unlikely to improve their on-field performances.

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