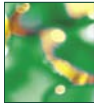

# Temazepam capsules: what was the problem?

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## Summary

**Over the last few years, injecting drug users in Australia increasingly injected the contents of temazepam gelcaps, an activity associated with significant harm. Although changes to the Pharmaceutical Benefits Scheme in May 2002 reduced the prescription of gelcaps, they did not eliminate misuse. Temazepam capsules were withdrawn from the Australian market in March 2004. Already front-line services are reporting a decrease in harm and misuse.**

Key words: adverse effects, drug dependence, benzodiazepines, hypnotics.

*(Aust Prescr 2004;27:58–9)*

## Introduction

Until recently, temazepam was available in Australia as a tablet and as a soft gelatin capsule (gelcaps). There is little evidence that there was any clinical reason to prescribe gelcaps instead of tablets.[1] There was evidence of an increase in intentional misuse, abuse, dependency and complications related to the injection of the liquid contents of temazepam gelcaps.

## Research evidence

The intravenous misuse of temazepam was first reported in Scotland in 1987.[2] International research has shown that temazepam, flunitrazepam and diazepam are the preferred benzodiazepines among injecting drug users. The practice of injecting benzodiazepines, and in particular the contents of temazepam gelcaps, is potentially very harmful and is a significant health issue for injecting drug users.[3,4]

Studies undertaken in Sydney found that benzodiazepines were commonly injected by people who also injected amphetamines or heroin, with diazepam and temazepam being the most likely to be injected.[5] Another study in Southwest Sydney found 25% of injecting drug users had injected benzodiazepines at some time and that temazepam was the most commonly injected.[6] A study in 2002 in Sydney found that while levels of methadone injection had fallen, there had been no decline in the proportion of injecting drug users injecting benzodiazepines.[7] In the Kings Cross area of Sydney, there were anecdotal reports of an increasing problem with the injection of temazepam gelcaps and its associated harms since the heroin shortage in early 2001.[8]

## Physical complications associated with the injection of temazepam gelcaps (Table 1)

Temazepam is insoluble in water and there is evidence that it directly damages vascular epithelium. This means that both the gelcap and tablet formulations are harmful when injected. Gelcaps were preferentially injected because injecting drug users felt that they worked better than tablets and the contents were in a readily injectable form. They heated the capsules and then drew the contents up into a syringe.

A survey of users of multiple drugs in the Kings Cross area who injected temazepam gelcaps found that the majority injected up to 200 mg daily. The gelcaps were obtained from doctors and on the street. The users injected gelcaps to replace or enhance the effects of heroin, to offset effects of psychostimulants such as cocaine or methamphetamine, to deal with stress or psychological distress and/or to sleep. They injected because the effect was quicker and more intoxicating.

All those surveyed were aware of the risks of injecting. Most had suffered some complications in the past including abscesses, cellulitis, skin ulcers, nerve damage and distal limb amputation. A number reported using deep veins in the groin and neck because they could no longer access peripheral veins.

**Physical complications associated with the injection of temazepam gelcaps**

- thrombophlebitis
- compromised venous return leading to lymphoedema
- tissue inflammation
- abscesses
- ulcers
- cellulitis

These problems can lead to injecting in the groin and neck, resulting in:

- deep venous thrombosis
- large vessel stenosis
- pseudoaneurysm with high risk of massive haemorrhage

Intra-arterial injection can cause additional problems:

- distal limb ischaemia
- gangrene
- compartment syndrome
- rhabdomyolysis
- renal failure

*Box*

**Ways to say no to requests for benzodiazepines**

1. Be aware that 'doctor shoppers' tend to present as 'drop ins'. They will often come at the end of a busy surgery and say, 'I won't take up much of your time Doc', or 'I know you're busy, this won't take long'.
2. Put a notice on the surgery notice board stating that you do not prescribe benzodiazepines (or other drugs of dependence).
3. Explain early in the consultation that you do not prescribe benzodiazepines.
4. Politely but firmly repeat your message: 'I'm sorry but I am unable to prescribe benzodiazepines'.
5. Injecting drug users will sometimes use benzodiazepines for heroin withdrawal; however, this is not the treatment of choice. Have information ready about appropriate treatment and referral for drug and alcohol issues, including selective drug withdrawal, detoxification and rehabilitation.
6. Have information available about healthy sleeping and sleep hygiene.
7. Let the patient know that you are willing to help them with any health problems and that you are concerned about their potentially hazardous use of benzodiazepines.
8. Some injecting drug users will try to manipulate the practitioner with statements such as 'I'll have to go and use heroin' or 'I'll have a fit, if I withdraw', the inference being that it will be all the doctor's fault as they are unwilling to help. It is important that doctors are clear in their own minds that they are in no way responsible for that person's choice and that in this instance they have a duty of care **not** to prescribe benzodiazepines. Seek specialist advice if concerned about the risk of withdrawal fitting. If you feel physically threatened by the patient, do not hesitate to write a prescription, report the incident to the police and ban the individual from your practice.

*Table 1*

## The United Kingdom experience

The UK faced similar problems with the injecting misuse of temazepam gelcaps in the early 1990s. In 1996 after education campaigns failed to adequately control the problem, gelcaps were removed from the National Health Service. Injecting drug users did not switch to injecting other benzodiazepines and the change resulted in an almost total disappearance in the injecting misuse of gelcaps and a consequent significant health benefit.

## Changes in Australia

In mid-2002, in response to the concerns over misuse, the Pharmaceutical Benefits Advisory Committee rescheduled 10 mg temazepam gelcaps to require an authority prescription. However, in Kings Cross this did not result in a reduction in temazepam's injection and associated harms. In fact, if anything, there appeared to be an increase in misuse. Injecting drug users reported no difficulty obtaining gelcaps, either from doctors or from the street black market. Gelcaps (10 mg and 20 mg) remained widely available on private scripts for approximately $15–25 a script for 25–50 capsules. Each temazepam gelcap had a street black market value of about $5, making it a very lucrative and worthwhile prescription. The 20 mg dosage appeared to be the most popular, although it was not available on the Pharmaceutical Benefits Scheme and required a private prescription. Alphapharm withdrew its temazepam capsule in February 2004, however this made little difference to the use and availability of the more popular brands of temazepam.

In March 2004, Sigma withdrew its capsules from the market. This has completely removed the gelcap formulation from Australia and as a consequence will have positive benefits for injecting drug users. Although temazepam capsules have been withdrawn, doctors need to be careful when prescribing benzodiazepines or other drugs of dependence. They need strategies to help them refuse demands for a prescription (see box).

## Conclusion

The harmful effects of injecting the contents of temazepam gelcaps led to the withdrawal of this product from the Australian market. Doctors still ought to be vigilant to detect harm associated with the misuse of benzodiazepines and carefully consider the need to prescribe drugs with a risk of dependence, particularly to anyone who could be an injecting drug user or be in contact with injecting drug users.

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*Conflict of interest: none declared*