Kasaba et al. ([1]) looked at the experiences of anaesthetists in Japan. They found that 15(54%) had an experience of inadvertent epidural injection, and 5 of them had two experiences.

These included: ephedrine (6 times), a mixture of neost igmine and atropine (3), thiopental (2), etilefrine (2), vecuronium (1), suxamethonium (1), bicarbonate (1), midazolam (1), lactated Ringer's solution (1), nicardipine (1), and pentazocine (1).

The inadvertent injection of thiopental or bicarbonate was noticed by back pain during injection. Whilst no adverse events were reported, this type of incident can lead to longer-term problems, as Hew et al. noted: ([2])

"Inadvertent administration of non-epidural medications into the epidural space has the potential for serious morbidity and mortality."

[1] Kasaba T, Uehara K, Katsuki H, Ono Y, Takasaki M. *Masui* 2000 Dec;49(12):1391-4 [Analysis of inadvertent epidural injection of drugs]

[2] Hew CM, Cyna AM, Simmons SW. *Anaesth Intensive* Care 2003 Feb; 31(1):44-9 Avoiding inadvertent epidural injection of drugs intended for non-epidural use.