

Carisoprodol

Carisoprodol is a centrally-acting skeletal muscle relaxant that is typically used as a short-term adjunct therapy for muscle pain and spasms. The mechanism of action is unclear but believed to be linked to blocking neuronal activity from the spinal cord and descending reticular formation. In addition, its metabolite, meprobamate, has barbiturate-like activity in binding to GABA-A receptors which may induce sedation and reduce pain perception. Carisoprodol also has weak anticholinergic activity. The usual dosage in treating muscle disorders is one tablet three times a day and at bedtime with a maximum daily dose of 1400 mg. It is available in both brand (e.g. Soma®) and generic forms in 250 mg and 350 mg strengths. With the emergence of online pharmacies, acquiring generic tablets of carisoprodol has become very easy as well as affordable. In 2006 alone, about 10 million prescriptions of carisoprodol were dispensed. It is not a federally controlled substance but is classified as a schedule IV drug in several states, not including Maryland. Carisoprodol's metabolite, meprobamate, is a schedule IV drug at the federal level.

Carisoprodol is abused for its sedative and anxiolytic effects, frequently in combination with opioids. An Idaho Medicaid study in 2005 reported that long-term users of carisoprodol had higher rates of concomitant use of opioids, had a history of drug abuse, and continued to pay for carisoprodol even after third-party coverage ceased (*Clin Ther* 2007 Oct;29(10):2222-5). The effects due to the metabolite meprobamate may play a role in carisoprodol abuse. Tolerance, dependence, and withdrawal can easily occur.

Following an overdose, symptomatic patients should be observed for at least 24 hours due to the longer duration of action of meprobamate. Moderate overdoses can cause mydriasis, nystagmus, dry mouth, tachycardia and CNS effects such as lethargy, euphoria, hallucinations, and ataxia. Severe overdoses can result in coma, respiratory depression and seizures. Activated charcoal may be useful when large doses have been ingested. The treatment for an overdose is symptomatic and supportive care only. Carisoprodol and meprobamate blood concentrations are not readily available and are not useful in dictating treatment.

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DID YOU KNOW THAT... there were more than 9,000 exposures to carisoprodol reported to U.S. poison centers in 2009?

There were a total of 28,175 exposures to muscle relaxants reported to poison centers in 2009. Of the 9,013 exposures to carisoprodol, 2,983 cases were treated in a healthcare facility. The only muscle relaxant with a greater number of exposures was cyclobenzaprine (Flexeril®), with 10,184 cases. In 2010, the Maryland Poison Center was consulted on 208 carisoprodol exposures and 228 cases with cyclobenzaprine.

