



## New Medication for Heroin Addiction Provides Withdrawal Relief

**A** single injection of a new sustained release formulation of buprenorphine substantially blocks heroin's effects. What is important is it relieved heroin craving and withdrawal symptoms for up to six weeks, report researchers from the National Institute of Drug Addiction (NIDA).

This is the first study to test sustained release buprenorphine in human narcotic opioid addicts. **It affirms the promise of a drug formulation designed to increase the patients' response to treatment, improve treatment outcomes, and reduce the risk of buprenorphine misuse.**

### Study Outline

**R**esearchers evaluated the formulation with five patients, two men and three women aged 33 to 42, who had been using heroin more than 6 years on average and were current daily users.

The day before initiating buprenorphine, the study team administered oral doses of hydromorphone as clinically needed to suppress the patients' withdrawal symptoms.

The amount of hydromorphone needed to alleviate withdrawal symptoms is an objective measure of opioid dependence severity. The patients' average opioid addiction was approximately equivalent to 50 mg/day of methadone.

Buprenorphine treatment consisted of a single injection of biodegradable polymer microcapsules containing 58 mg of the medication. During the following 6 weeks, a 4-week residential phase and a 2-week outpatient phase, researchers assessed the patients for signs of heroin withdrawal.

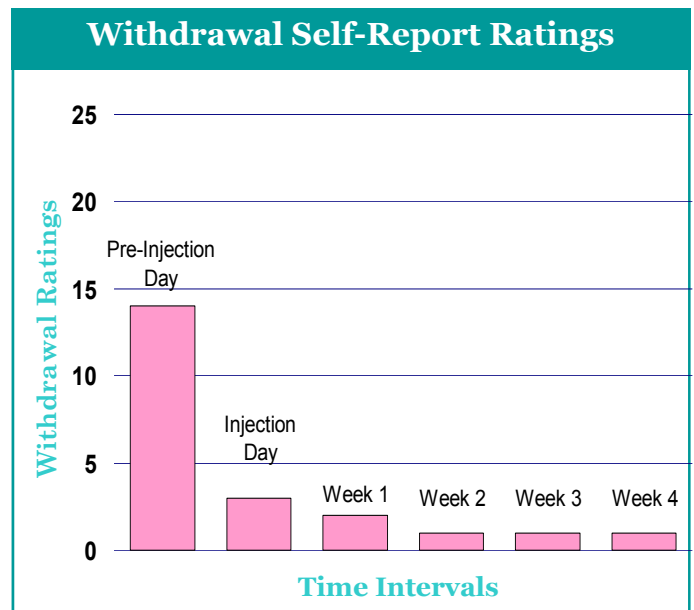
Patients rated their withdrawal symptoms using a standard questionnaire. **Importantly, no patient needed additional medication for withdrawal relief.**

To test sustained release which is buprenorphine's power to block the effects of heroin, patients received weekly challenge test injections of 3 mg hydromorphone or saline under double blind procedures.

**Patients' subjective ratings of various hydromorphone effects, such as feeling high, sick, or any effect, stood at zero in the first 2 weeks after buprenorphine treatment. (Please see Exhibit I)**

Drug effect ratings in subsequent weeks of the study remained low, less than 25 on a 100 point scale. Moreover, the buprenorphine formulation appeared to be safe and well tolerated, with no significant side effects or signs of opioid intoxication or respiratory depression.

Exhibit I



## Summary

**T**hese results suggest that sustained release buprenorphine will prove an appealing and effective treatment alternative for opioid addicted patients.

Like methadone, buprenorphine activates opiate receptors, but its effects level off as the patient takes higher and higher doses. Its pharmacologic profile reduces the likelihood of dangerous side effects such as severe respiratory de-

pression. The addition of naloxone reduces the potential for abuse by illicit injection.

**Buprenorphine has a relatively long duration of action and causes comparatively mild withdrawal discomfort on cessation.** This drug affords a greater flexibility in dosing regimens and a margin of convenience for patients and physicians.

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