

**Title:** Optimizing Buprenorphine Initiation for Opioid Use Disorder in the Inpatient Setting:  
A Retrospective Chart Review

**Authors:** Nicole Zachwieja, PharmD Candidate and Sarah Burmeister, PharmD, BCPS

**Abstract:** The past decade has seen a shift in the illicit drug supply, which now predominantly contains high-potency synthetic opioids (HPSOs) such as fentanyl. Consequently, there is a need to adjust the approach of opioid use disorder (OUD) treatment to match patient needs. Higher doses of buprenorphine may be needed for successful treatment. In this ever-changing landscape, there is a need for more data to develop practical and effective buprenorphine dosing protocols. The purpose of this retrospective chart review was to characterize and evaluate the effectiveness of buprenorphine induction in OUD patients presenting to a Midwest, 200-bed community hospital. Hospital encounters between January 1 and December 18, 2024, with patients 18 years and older presenting in moderate to severe opioid withdrawal and receiving at least one dose of buprenorphine were included in the analysis. Moderate to severe withdrawal was defined as a Clinical Opiate Withdrawal Scale (COWS) score greater than 12 or the patient stating they were experiencing moderate to severe withdrawal symptoms. Patients with encounters less than 72 hours, significant comorbid medical or psychiatric illness, medical need for substantial amounts of benzodiazepines or barbiturates, Child-Pugh class C hepatic failure, had received transdermal buprenorphine during the encounter, and/or were exposed to methadone in the last 48 hours were excluded. The primary efficacy endpoint was median COWS score 72 hours after the first buprenorphine administration (2, range 0-9). Other summarized encounter data included COWS score recorded before the first buprenorphine administration (38% mild, 59% moderate, 3% moderately severe), initial buprenorphine dose (9% received 2mg, 31% received 4mg, 59% received 8mg), and whether adjunct medications were administered (100% of patients). Total buprenorphine dose, total clonidine dose, and number of buprenorphine doses administered in the first 72 hours were reported as individual patient data. The median duration of encounter (4.5 days, range 3-17), discharge location (66% discharged to home or self-care, 28% to inpatient rehabilitation, 6% left AMA), and incidence of return to the emergency department (ED) within 24 hours of discharge (6%) were also summarized. Results were analyzed using descriptive statistics.