

(extrasynaptic) inhibitory currents. Furthermore, in vitro evidence suggests that whereas benzodiazepines are associated with GABA<sub>A</sub>R downregulation, zuranolone upregulates the surface expression of GABA<sub>A</sub>R.

In conclusion, by upregulating GABA<sub>A</sub>R expression and increasing phasic and tonic inhibitory GABAergic signaling, zuranolone may rapidly restore and maintain excitatory-inhibitory balance in brain networks, thus allowing the brain to potentially respond appropriately to internal and external stimuli.

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## Practical Pharmacotherapy for Opioid Use Disorder in the Age of Fentanyl

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### Abstract

Opioid use disorder (OUD) is a serious public health threat. Pharmacotherapy, commonly known as medications for opioid use disorder (MOUD), is established as the cornerstone of OUD treatment. MOUDs reduce likelihood of relapse, promote recovery, and save lives. However, many clinicians are still reluctant to use these medications, in part due to inadequate training and experience. In light of the ongoing opioid overdose epidemic, it has become ever more important for clinicians to confidently and thoughtfully deploy these medications to help patients struggling with OUD. To aid busy clinicians, we have put together a review of the extant literature on three FDA-approved pharmacotherapy options—methadone, buprenorphine, and extended-release naltrexone—with a heavy focus on practical clinical application. We discuss how to effectively engage patients with OUD and initiate them on MOUDs—especially when their primary misused drug is fentanyl. We also review novel strategies, such as buprenorphine microinduction, as well as suggested best practice to effectively transition between MOUDs. Finally, we synthesize our review and recommendations in an algorithmic flowchart to provide visually compelling information.

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## Can COVID-19 Cause Acute Psychosis in Pediatric Patients? A Case Report

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### Abstract

**Objectives.** To demonstrate that COVID-19-associated acute psychosis, though rare, can happen in the pediatric patient population. Patients with new-onset psychosis should be tested for COVID-19 infection, and other organic causes of psychosis should also be considered (e.g., delirium, medication-induced psychosis, and catatonia).

**Method.** Patient X, a 14-year-old female with no known past psychiatric history, presented to the local emergency room following odd behavior for 3 days and having tested positive for COVID-19 2 weeks prior. The patient's mother reported odd behaviors, including the patient claiming her fish was calling her name and her name was being repeated on TV. She had been moving slowly with occasional staring. The patient's mother reported episodes in which the patient was repeating phrases over and over and where she would require redirection to a task. When the patient planned to have a bath, her mother noted that she was naked in her room while looking for something and then needed redirection to go take a bath. She did not have any episodes of agitation. A thorough psychiatric evaluation indicated she was experiencing visual hallucinations. Her vitals were within normal ranges, except for a mildly elevated heart rate. The patient was admitted for further testing, assessment, and management. She was started on chlorpromazine 10 mg daily as needed for psychosis.

**Result.** A complete blood count with differential (CBC), complete metabolic panel (CMP), and thyroid function results were all within the normal range. Urine drug screening was negative. EKG, CSF analysis, chest X-ray, and brain MRI showed no significant abnormalities. Mild background slowing was noted on EEG, with no interictal/epileptiform discharges or any delta brushes. Therefore, a tentative diagnosis of COVID-19-associated psychosis was made. Treated with chlorpromazine 10 mg daily, the patient gradually improved with no hallucinations or bizarre behavior. She was discharged after 5 days and was not prescribed any medication at discharge. Nine days after discharge, the patient was seen by a pediatric neurologist. She did not report any hallucinations or delusions, but her mother reported that the patient moved slowly and had difficulty identifying common objects. An autoimmune panel, physical exam, and repeat EEG were all unremarkable. The neurologist concluded that her psychosis was most likely post-viral sequelae. The patient continued to improve and returned to school over the span of 2 months.

**Conclusion.** Acute psychosis after COVID-19 infection is a new and emerging diagnosis with no consensus on management strategies for pediatric or adult patient populations. This case highlights the need for clinicians to be vigilant of subtle, fluid psychotic symptoms, in addition to patients' general mental well-being. We do not have research regarding the long-term consequences of acute psychosis episodes. Further studies are needed to investigate the neuropsychiatric etiology of post-COVID-19 psychosis and the optimum treatment for this group of patients.

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