The Ins and Outs of Buprenorphine

Buprenorphine (Subutex) and buprenorphine with naloxone (Suboxone) affect our anesthesia practice on several levels. Controversy surrounds the use of these medications as treatment for opioid chemical dependency, especially for nurse anesthetists and other healthcare providers. On another level, the use of these medications has skyrocketed in the treatment of chronic pain as providers seek to reduce more potent opiate abuse as well as opioid addiction. The medications must be factored into the anesthesia care for such patients.

Subutex is a partial mu opiate agonist and kappa antagonist with strong affinity for the mu receptor. It is an oral preparation that provides analgesia with less euphoria and less risk of respiratory depression than the mu agonist methadone, although there have been deaths associated with Subutex when tablets have been crushed and injected intravenously and combined with other drugs such as benzodiazepines or alcohol.¹ There was hope this drug would replace the need for stronger opioids in treating chronic pain. Its use has increased as patients are transitioned to Subutex in order to ‘wean’ them off stronger opioids and to treat opioid dependency. Unfortunately, as with other mu agonists such as methadone, this drug has abuse potential, especially if injected or snorted, and as such is a Drug Enforcement Administration (DEA) Schedule III drug.

To combat potential abuse, a 4:1 combination of buprenorphine and the mu antagonist naloxone was developed. If taken properly (i.e., sublingually) the agonist properties predominate. If taken inappropriately, (i.e., crushing and injecting it intravenously or snorting it) the naloxone antagonist properties can precipitate withdrawal symptoms. In spite of the threat of withdrawal, even Suboxone has abuse potential and is also a DEA Schedule III drug. It has been shown that, while Suboxone is injected less frequently than buprenorphine alone, addicts will use what is available, even if the “high” is lessened with Suboxone.²

Recovering CRNAs and Buprenorphine

What about the CRNA in recovery from opioid dependence returning to practice? Is it appropriate for a CRNA to reenter the workforce while taking buprenorphine? The answer is “no” for several reasons. Buprenorphine is a substitute treatment, not abstinence-treatment. If not taken regularly, withdrawal will occur and the underlying addiction is not addressed. The AANA Peer Assistance Advisors Committee supports abstinence-based recovery. In conjunction with a solid recovery program, the use of long-acting opiate antagonists, such as naltrexone, help reduce cravings and relapse for some CRNAs. A second concern is the possibility of cognitive and motor impairment associated with buprenorphine, which is not of concern with naltrexone. There exists a paucity of research in the area of cognitive impairment associated with buprenorphine. Until there is solid research demonstrating buprenorphine’s efficacy as a pharmacologic tool for relapse prevention, it should not be acceptable in the workplace for recovering CRNAs returning to practice.³

Surgical Patients and Buprenorphine

What about surgical patients who take buprenorphine or Suboxone? Patients should take their normal dose of medication on the day of surgery to prevent withdrawal symptoms. Opioids can be avoided if possible. Regional anesthesia techniques and non-narcotic adjunct

Overview of Opioid Agonists, Antagonists, and Agonist/Antagonists Used to Treat Addiction

<table>
<thead>
<tr>
<th>Generic Drug</th>
<th>Trade Name</th>
<th>Drug Class</th>
<th>Abuse Potential</th>
<th>DEA Schedule</th>
<th>Potential for neurocognitive and psychomotor impairment</th>
<th>Recommended by AANA Peer Assistance for re-entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naloxone</td>
<td>Narcan</td>
<td>Opiate antagonist</td>
<td>No</td>
<td>None</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Naltrexone</td>
<td>Revia</td>
<td>Opiate antagonist</td>
<td>No</td>
<td>None</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>Subutex</td>
<td>Partial opiate agonist</td>
<td>Yes</td>
<td>Schedule III</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Buprenorphine with naloxone</td>
<td>Suboxone</td>
<td>Partial opiate agonist and opiate antagonist</td>
<td>Yes</td>
<td>Schedule III</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Methadone</td>
<td>Dolophine</td>
<td>Opiate agonist</td>
<td>Yes</td>
<td>Schedule II</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Adapted from Hamza and Bryson.³
medications are helpful. If opioids cannot be avoided, it is important to remember that the strong affinity of buprenorphine for the mu receptor makes it more difficult for other opioids to bind, and these patients will have higher opioid requirements. Aside from dealing with the physical aspects of caring for these patients, providers must confront their own opinions and biases and the stigma associated with opioid dependency. Medication-assisted treatment for chronic illness of opioid use disorder is supported by several organizations including the Substance Abuse Mental Health Services, the Institute of Medicine, and the World Health Organization. A non-judgmental attitude towards these patients can only foster healthier relationships between patients and providers.

**Be Alert to the Issues**

For both recovering healthcare providers who take the drug as a treatment for chemical dependency and the general public, anesthesia professionals must be alert to the issues raised by the use of Subutex and Suboxone. These drugs can affect patient care in at least two ways: the presence of still-addicted anesthesia providers in the workplace and anesthesia patients whose opioid requirements will be higher.

**References**


For more information on the AANA Peer Assistance Advisors’ recommendations for the treatment of the disease of addiction in anesthesia professionals and students, along with guidelines for re-entry to work, visit www.AANAPeerAssistance.com.