

with methadone.

Narcotics, which have a low molecular weight, readily cross the placental membrane and enter the fetal system. Illicit substances may also be transmitted to the newborn through breast milk. When the mother is a habitual user of opiates, especially oxycodone (OxyContin), heroin, or methadone, the unborn child may also become chemically dependent or passively addicted to the drug, which places such infants at risk during the perinatal and early neonatal periods. **Neonatal abstinence syndrome (NAS)** is the term used to describe the set of behaviors exhibited by infants exposed to narcotics in utero.

## Clinical Manifestations

The adverse effects of exposure of a fetus to drugs are varied. They include transient behavioral changes such as alterations in fetal breathing movements and irreversible effects such as fetal death, IUGR, structural malformations, or cognitive impairment. Determining the specific effects of individual drugs on an individual fetus is made difficult by polydrug use, which is common; errors or omissions in reporting drug use; and variations in the strength, purity, and types of additives found in street drugs. Maternal conditions such as poverty, malnutrition, and comorbid conditions (such as sexually transmitted infections) further compound the difficulty in identifying the presence and consequences of intrauterine drug exposure. Most infants who are exposed to drugs in utero may demonstrate no immediate untoward effects and appear normal at birth. Infants exposed only to heroin may begin to exhibit signs of drug withdrawal within 12 to 24 hours. If mothers have been taking methadone, the signs appear somewhat later—anywhere from 1 or 2 days to 2 to 3 weeks or more after birth. The clinical manifestations may fall into any one or all of the following categories: CNS, gastrointestinal, respiratory, and autonomic nervous system signs ([Weiner and Finnegan, 2011](#)). The manifestations become most pronounced between 48 and 72 hours of age and may last from 6 days to 8 weeks, depending on the severity of the withdrawal ([Box 8-9](#)). Although these infants suck avidly on fists and display an exaggerated rooting reflex, they are poor feeders with uncoordinated and ineffectual sucking and swallowing reflexes.