Opioid (Narcotic) Analgesics (Systemic)

Category
Commonly used brand name(s)
Indications
Pharmacology/Pharmacokinetics
Precautions to Consider
Side/Adverse Effects
Overdose
Patient Consultation
General Dosing Information
Parenteral Dosage Forms
Related Monographs
References

This monograph includes information on the following:

1) Anileridine
2) Butorphanol
3) Codeine
4) Hydrocodone
5) Hydromorphone
6) Levorphanol
7) Meperidine
8) Methadone
9) Morphine
10) Nalbuphine
11) Opium
12) Oxycodone
13) Oxymorphone
14) Pentazocine
15) Propoxyphene

Note: See also individual Buprenorphine (Systemic) and Demerol (Systemic) monographs. See also Fentanyl Derivatives (Systemic) for information on alfentanil, fentanyl, and sufentanil.

INN:
Meperidine—Pethidine
Propoxyphene—Dextropropoxyphene

VA CLASSIFICATION
Anileridine
Primary: CN101
Secondary: CN206

Butorphanol

Pregnancy/Reproduction

Pregnancy—
Risk—benefit must be considered because opioid analgesics cross the placenta. Regular use during pregnancy may cause physical
dependence in the fetus, leading to withdrawal symptoms (convulsions, irritability, excessive crying, tremors, hyperactive reflexes,
fever, vomiting, diarrhea, sneezing, and yawning) in the neonate. Use of methadone by pregnant women participating in methadone
maintenance programs has also been associated with fetal distress in utero and low birth weight.

For butorphanol, nalbuphine, pentazocine, and propoxyphene: Although studies in humans have not been done, studies in animals
have not shown that these agents cause adverse effects on fetal development (Pentazocine and naloxone tablets—FDA Pregnancy
Category C).

For codeine, hydrocodone, hydromorphone, morphine, and opium: Although teratogenic effects in humans have not been documented,
controlled studies have not been done. Studies in animals have shown codeine (single dose of 100 mg per kg) to cause delayed
ossification in mice and (in doses of 120 mg per kg) increased resorptions in rats, and hydrocodone, hydromorphone, and morphine to
be teratogenic in very high doses (FDA Pregnancy Category C).

For anileridine, levorphanol, meperidine, methadone, oxycodone, and oxymorphone: Although teratogenic effects in humans have not
been documented, controlled studies have not been done.

Labor and delivery—
Opioid analgesics, including epidurally or intrathecally administered opioids, readily enter the fetal circulation when used during labor
and may cause respiratory depression in the neonate, especially the premature neonate. These agents should be used with caution, if at
all, during the delivery of a premature infant. Methadone is not recommended for obstetrical analgesia because its long duration of
action increases the risk of neonatal respiratory depression. Also, morphine, hydromorphone, codeine, and possibly other opioids may
prolong labor. Intrathecal administration of up to 1 mg of morphine sulfate has little effect on the first stage of labor but may prolong
the second stage of labor.

Breast-feeding
Problems in humans with most opioid analgesics have not been documented. Butorphanol, codeine, meperidine, methadone,
morphine, and propoxyphene are distributed into breast milk. Information concerning the distribution of other opioid analogesics into
breast milk is lacking. With usual analgesic doses, concentrations of those drugs known to be distributed into breast milk are generally
low. However, risk-benefit must be considered when methadone is administered to a nursing mother in a methadone maintenance
program because use of maintenance doses may cause physical dependence in the infant.

Pediatrics
Children up to 2 years of age may be more susceptible to the effects, especially the respiratory depressant effects, of these
medications.

Paradoxical excitation is especially likely to occur in pediatric patients receiving opioid analgesics.

Geriatrics

Geriatric patients may be more susceptible to the effects, especially the respiratory depressant effects, of these medications. Also,
geriatric patients are more likely to have prostatic hypertrophy or obstruction and age-related renal function impairment, and are
therefore more likely to be adversely affected by opioid-induced urinary retention. In addition, geriatric patients may metabolize or
eliminate these medications more slowly than younger adults. Lower doses or longer dosing intervals than those usually recommended
for adults may be required, and are usually therapeutically effective, for these patients.

Dental
Opioid analgesics may decrease or inhibit salivary flow, thus contributing to the development of caries, periodontal disease, oral
candidiasis, and discomfort.