

Table 7. Second-Line Abortive Medications for Migraine

Drug Name (Brand)	Formulations	Usual Dosage	Comments
NSAIDs			
Ketorolac (Toradol, generic; Sprix nasal spray)	Oral, IM, nasal spray	Injection: 60 mg/2 mL; repeat in 4 h if needed. Maximum dose, 2 injections/d Oral: 2 tablets/d, at most	Ketorolac intramuscular (IM) injections, which can be administered at home, are much more effective than tablets. Nausea or GI pain may occur. Ketorolac is nonaddicting and does not usually cause sedation. Limit to 3 injections/wk due to possible nephrotoxicity. IV ketorolac is very effective. There is a nasal spray form of ketorolac (Sprix), which may produce a burning feeling in the throat. Sprix is more effective than tablets but not as effective as IM.
DHE			
Dihydroergotamine (Migranal nasal spray, generic DHE)	IV, IM, nasal spray	1 mg IM or IV; may be titrated up or down. If it is the first time a patient has used DHE, start with 0.33 or 0.50 mL only.	Effective as an IV or IM injection, and may be effective as a nasal spray. Migranal is the brand name of DHE nasal spray; inhaled form of DHE is awaiting FDA approval. All forms of DHE are safe and well tolerated. Nausea, leg cramps, and burning at the injection site are common. IV DHE is very effective in the office or emergency room.
Butalbital			
Butalbital (Phrenilin) Butalbital, aspirin and caffeine (Fiorinal) Butalbital, acetaminophen, and caffeine (Fioricet, Esgic) Butalbital, acetaminophen, caffeine, and 30 mg codeine (Fiorinal #3)	Oral tablets and capsules	1-2 tablets or capsules every 3 h; maximum dose 4 tablets/d. Limit to 30 or 40 pills/mo	Barbiturate medications are addicting but very effective for many patients. Generics of these compounds may not work as well. Fiorinal #3 is more effective than plain Fiorinal or Fioricet. Phrenilin contains no aspirin or caffeine and is very useful at night and in those with GI upset. Brief fatigue and “spacey” or euphoric feelings are common side effects. Butalbital must be used sparingly in younger people.
Opioids			
Hydrocodone and acetaminophen (Vicodin, Norco, generic) Hydrocodone and ibuprofen (Vicoprofen) Oxycodone (generic) Meperidine (generic) Tramadol (Ultram)	Oral, IM	See individual PIs. These must be limited per d, and per mo	By mouth or IM, opioids often are the best of the “last resort” approaches. When given IM, they usually are combined with an antiemetic. Although addiction is a potential problem, it is crucial to understand the difference between dependency and addiction. Tramadol is milder, with relatively few side effects. Vicoprofen is more effective than the other hydrocodone preparations because of the addition of ibuprofen and, generally, is well tolerated.

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Drug Name (Brand)	Formulations	Usual Dosage	Comments
Corticosteroids			
Cortisone (generic) Dexamethasone (Decadron) Prednisone (generic)	Oral, IV, and IM	Dexamethasone: 4 mg (½ to 1 tablet) every 8-12 h as needed. Maximum 8 mg/d. Limit to 12 to 16 mg/mo, at most Prednisone: 20 mg (½ to 1 tablet) every 8-12 h as need. Maximum dose, 40 mg/d. Limit to 80 mg/mo, at most	Often very effective therapy for severe, prolonged migraine; dexamethasone and prednisone are very helpful for menstrual migraine. The small doses limit side effects, but nausea, anxiety, a “wired” feeling, and insomnia are seen. IV or IM steroids are very effective as well. Patients need to be informed of, and accept, the possible adverse events.
Ergots			
Ergotamine (Ergomar, generics) Ergotamine and caffeine (Cafergot)	Sublingual tablets, suppositories	Varies with preparation Tablets: ½ or 1 tablet once or twice per day as needed	Oldest therapy for migraines. Often effective, but side effects, including nausea and anxiety, are common. Only compounded Cafergot PB is available. The suppositories are more effective than the tablets. Rebound headaches are common with overuse of ergots. Use only in younger patients. Ergomar SL tablets are back on the market; contains no caffeine. The Ergomar dose is ½ or 1 tablet once or twice per day as needed.

ASA, aspirin; DHE, dihydroergotamine; GI, gastrointestinal; IM, intramuscular; IV, intravenous; NSAID, nonsteroidal anti-inflammatory drug; PI, prescribing information

Table 8. Antiemetic Medications^a

Drug Name (Brand)	Formulations/Dosage	Comments
Promethazine (Phenergan)	Available as tablets, suppositories, and oral lozenges	Mild but effective for most patients. Very sedating with a low incidence of serious side effects. Used for children and adults. Oral lozenges are formulated by compounding pharmacists.
Prochlorperazine (Compazine)	IV, tablets, long-acting spansules, and suppositories	Very effective but there is a high incidence of extrapyramidal side effects. Anxiety, sedation, and agitation are common. When given IV, it may stop the migraine pain as well as the nausea.
Metoclopramide (Reglan)	Oral, IM, and IV; dose: 5-10 mg	Mild, but well tolerated; commonly used prior to IV DHE. Fatigue or anxiety do occur, but usually are not severe. It is Pregnancy Category B (relatively safe).
Trimethobenzamide (Tigan)	Tablets, oral lozenges, and suppositories	Well tolerated, useful in children and adults. Oral lozenges are formulated by compounding pharmacists.
Ondansetron (Zofran, generic)	Oral tablets and disintegrating tablets; dose: 4 or 8 mg (usually 8 mg every 3 to 4 h prn)	A very effective antiemetic with few side effects but expensive. It is not sedating. Zofran is extremely useful for patients who need to keep functioning and not be sedated with an antiemetic. It is Pregnancy Category B (relatively safe).

DHE, dihydroergotamine; IM, intramuscular; IV intravenously; prn, as required

^a These are commonly prescribed for nausea and other GI symptoms.