

## Headache Medication Table

Medication	Recommended Dosages for Adults	Comments
Acetylsalicylic acid (aspirin, ASA) [OTC]	650 to 1,000 mg every 4 to 6 hours. Maximal initial dose: 1g. Maximal daily dosing: 4g	Metoclopramide [F] (Migraine only) 10 mg P.O. may improve efficacy 10-15 minutes prior to ASA
Ibuprofen (Motrin®) [OTC]	400 to 800mg every 6 hours. Maximal initial dose 800mg. Avoid taking more than 2.4g per day.	Metoclopramide [F] (Migraine only) 10 mg P.O. may improve efficacy 10-15 minutes prior to ibuprofen
Naproxen sodium (Anaprox®) [F]	275 to 550mg every 2 to 6 hours. Maximal initial dose 825mg. Avoid taking more than 1.5g per day.	Metoclopramide [F] (Migraine only) 10 mg P.O. may improve efficacy 10-15 minutes prior to naproxen
Isometheptene mucate 65 mg, dichloralphenazone 100 mg, 325 mg acetaminophen (Isocom® or Midrin®) Migraine, Tension  This medication is no longer available	2 caps P.O. at onset; repeat 1 cap every hour up to 5 caps per attack or 12 hours; limit 15/week and 40/month  2 caps P.O. at onset; repeat 1 cap every hour up to 5 caps per attack or 12 hours; 20 per month; limit use to two days or fewer per week.	Contraindicated in: hepatic or renal impairment, diabetes, hypertension glaucoma, alcoholism, cardiac disease  Begin with 1 cap for children 8-12 years
Butalbital/caffeine with ASA (Fiorinal®) [F] or Acetaminophen (Fioricet®) [F] (325 mg ASA or acetaminophen; 50 mg butalbital; 40 mg caffeine) Tension, Migraine	1-2 tabs P.O. at onset. May repeat 1 tab every 2 hours to maximum 6 tabs/event or 24 hours; maximum 10 events/month or 24-30 tabs/month	Contraindicated in porphyria  Frequent use of these compounds may result in rebound or caffeine withdrawal headaches as well as habituation. Should be used rarely if at all. .
Butalbital with ASA without caffeine (650 mg ASA; 50 mg butalbital) (Axotal®) [NF]  Tension, Migraine	1 tab every 4 hours to maximum of 6 tablets/event or 24 hours; 10 events/month; 24-30 tabs/month	May be habituating. Should be used rarely if at all.
Butalbital with acetaminophen without caffeine (325 mg acetaminophen 50 mg butalbital) (Phrenilin®) [NF]	1-2 tabs every 4 hours to maximum of 6 tablets/event or 24 hours; 10 events/month; 24-30 tabs/month	May be habituating. Should be used rarely if at all.

Tension, Migraine		
Butalbital/caffeine with ASA (Fiorinal® with codeine 30mg) [NF] or acetaminophen and codeine (Tylenol with codeine 30 mg or 60 mg) [NF]	1-2 tabs P.O. start of headache; may repeat up to 1 tab every 1-2 hours with maximum 6 tabs/24 hours; maximum 8 events/month or 16-20 tabs/month	These compounds if used frequently could lead to rebound and withdrawal headaches May be habituating. Should be used rarely if at all.
Tension, Migraine		
Ergotamine (Ergostat) [F] Ergotamine tartrate with caffeine (Cafergot®, Wigraine®) [F] Migraine, Cluster	1-2 tabs (1-2mg) P.O. onset; may repeat 1 tab every 30 minutes to 5 tabs/event; maximum 10 tabs/week  1/2 - 1 suppository (1-2 mg) per hour up to 2 suppositories/headache; maximum 5/week  <b>Consider instead:</b> repeat in one hour if needed. Maximum 2 suppositories per headache	Contraindications: Pregnancy or lactation, Use of triptans, hepatic or renal impairment, diabetes, hyperTensionglaucoma, cardiac disease  Metoclopramide [F] 10 mg P.O. 10-15 minutes prior to the P.O. form of ergot may increase efficacy  For side effects see below under dihydroergotamine mesylate. May result in rebound headaches and habituation.
Dihydroergotamine mesylate (DHE-45) [NF] Migraine, Cluster	0.5-1 mg I.M. every hour up to 3 mg per attack; maximum 6 mg/week  0.5-1 mg slow I.V. push with or without 100 mg hydrocortisone succinate preceded by 10 mg metoclopramide or 10 mg chlorpromazine or 10 mg prochlorperazine pushed over 2-3 minutes	Contraindications: Use of triptans, previous myocardial infarction, peripheral vascular disease.  10 mg metoclopramide may enhance efficacy of DHE and reduce nausea. This can be self administered with some basic training.  Inquire regarding side effects especially extrapyramidal symptoms. If present give 25-50 mg diphenhydramine HCl or 1-2 mg benztropine mesylate I.V.  I.V. dosing: Vital signs should be taken at 15, 30, and 45 minutes. Common side effects will include nausea, burning sensations, chest and limb tightness, and leg cramps.  Antiemetics may be given before DHE (See following table for antiemetics)
Oral Sumatriptan (Imitrex®) tablets [F] Migraine, Cluster  (formulary preferred)	25-100 mg tablet prn headache; wait 2 hours after a dose to repeat a dose; maximum daily dose is 200 mg. Take with fluids.  Maximal initial dose: 100mg	<b>Contraindications:</b> Heart disease, coronary artery disease, Prinzmetal angina, renal disease, limb peripheral vascular disease, uncontrolled hypertension, cocaine use, ergotamine preparations in the last 24 hours including DHE-45. Not for use with Basilar or Hemiplegic Migraine.
Sumatriptan succinate (Imitrex®) injectable [F] (formulary restriction and	6 mg subcutaneously; may repeat once if partial relief is achieved. If no relief with first injection do not repeat.	<b>Contraindications:</b> Heart disease, coronary artery disease, Prinzmetal angina, renal disease, limb peripheral vascular disease, uncontrolled

guidelines) Migraine, Cluster	Maximum 12 mg/24 hours; recommend minimum of 7 days interval before reuse without involvement of a Neurologists. In patients with dose-limiting adverse effects, lower doses can be given using single dose vials.	hypertension, cocaine use, ergotamine preparations in the last 24 hours including DHE-45. Not for use with basilar or hemiplegic migraine.
Sumatriptan (Imitrex) Nasal spray [F] (Migraine, Cluster)	20mg in one nostril may repeat once after 2 hours if partial relief obtained. Maximum dose of 40mg per day.  The safety of treating over 4 headaches in a 30 day period has not been established.	Contraindications; as above.
Rizatriptan (Maxalt), MLT tablets [NF] (No longer preferred formulary)  Migraine, Cluster	10 mg po at onset may repeat at 2 hours, max 30 mg in 24 hrs  If taking propranolol [F], dose needs to be reduced to 5 mg; not necessary with other beta blockers	Contraindications; as above  Most rapid oral agent, Dissolves on tongue
Naratriptan (Amerge) [NF] Migraine, Cluster	2.5 mg po at onset, may repeat at 4 hours, max 5 mg in 24 hrs	Contraindications; as above  Consider for headaches with slow onset but prolonged duration (menstrual-migraine)
DHE-45 (Migranal) [F] Nasal spray  Migraine, Cluster	1 spray (0.5mg) in each nostril; may repeat in 15 minutes. Maximum of 6 sprays/24 hours or 8 sprays/week.	<b>Contraindicated</b> in patients with hemiplegic or basilar migraine or history of MI or angina. May raise BP.  Common side effects will include nausea, burning sensations, chest and limb tightness, and leg cramps. Antiemetics may be given before DHE (See following table for antiemetics)
Prochlorperazine (Compazine®) [F]  Migraine, Cluster, Tension	10 mg I.V. push over 2 minutes.	May want to give simultaneously 25 mg I.V. diphenhydramine
Chlorpromazine (Thorazine®) [F]  Migraine only	10 mg over 20 minutes repeated up to 3 times (30 mg maximum) I.V.	Pretreatment with 500 mL NS helps prevent orthostatic hypotension. Watch for extrapyramidal side effects. Additional studies are necessary to determine role of Chlorpromazine [F] in treating migraine.
Meperidine HCl and hydroxyzine pamoate (Demerol® [NF] and Vistaril® [F])  Migraine	75-100 mg meperidine I.M. and 50 mg hydroxyzine I.M.	Consider chronic abuse or habituation. Do not use in patients who are on MAO inhibitors or INH. Use with caution in patients with hepatic impairment.
Butorphanol tartrate	1 spray intranasally at onset; may repeat	One bottle has fifteen sprays. Two bottles per

(Stadol® NS) [NF] (nonformulary) Migraine	1 additional spray in 1 hour; 1 additional spray at 2 hours if needed; maximum 4 sprays/24 hours  If a 2mg dose is given initially, do not give another dose for at least 3-4 hours.	month maximum. Controlled substance, may be habituating. Should be used seldom if at all.
Ketorolac (Toradol®) Injectable [NF] (formulary restriction) Migraine, Tension	30-60 mg one time daily intramuscularly (Restricted to emergency and critical care department physicians)	This drug is very controversial as it is currently suspended from use in Germany and France due to GI, renal, hemopoietic side effects as well as a relatively high incidence of sudden death compared to other standard migraine therapies.
Dexamethasone (Decadron®) [F] Migraine, Cluster	1.5 mg bid P.O. x 2 days  8 to 16 mg I.M. long-acting preparation every 1 to 3 weeks;  4 mg I.V.; may repeat 4 mg in 1 hour; 24 mg maximum/24 hours	Though widely used this therapy is controversial and unsupported by controlled studies. This is useful for intractable migraines.
Prednisone 10mg po tablet (Deltasone®) [F] Migraine, Cluster	60-80 mg/day with rapid taper	Same as mentioned for dexamethasone [F]
Oxygen Cluster Only	100% 8-10 L/minute by mask moisturized 10-15 minutes	May rebound; may repeat once more.
Lidocaine 4% solution [F] Cluster Only	15 drops intranasally ipsilateral nostril to side of headache	Head must be extended and rotated contralateral to side of headache. Used only in cluster headache.
Lidocaine 2% jelly [F] Cluster Only	1 mL expressed into nostril gently distributed by Q-tip ipsilateral to headache	Supplied in 15 mL individual containers.
<b>Headache Prophylactic Treatment</b>	<b>Recommended Dosages for Adults</b>	<b>Comments</b>
<b>TRICYCLIC</b>		
Nortriptyline hydrochloride (Pamelor®) [F] Migraine, Tension	10-125 mg/day	Effectiveness for headache treatment independent of antidepressant effect, and in lower doses. Contraindications: untreated glaucoma, urinary retention. Side effects: drowsiness, urinary retention, dry mouth, weight gain, constipation, mania. Measure drug levels if doses exceed 200 mg/day.
Amitriptyline hydrochloride (Elavil®) [F] Migraine, Tension	10-150 mg/day. Lower doses are usually used for prophylaxis against migraine.	Same as mentioned for Nortriptyline (Pamelor®) [F]

Doxepin hydrochloride (Sinequan®) [F] Migraine, Tension	10-150 mg/day	Same as mentioned for Nortriptyline (Pamelor®) [F]
Imipramine hydrochloride (Tofranil®) [F] Migraine, Tension	10-150 mg/day	Same as mentioned for Nortriptyline (Pamelor®) [F]
<b>SEROTONIN RE-UPTAKE INHIBITORS</b>		
Fluoxetine hydrochloride (Prozac®) [F] Migraine, Tension	10-40 mg/day	Fewer anticholinergic effects than tricyclics; may cause weight loss; can combine with tricyclic antidepressants (TCAs) with caution. Concurrent use with a TCA may result in an increase in TCA serum levels which should be monitored. Side effects: nausea, flu-like symptoms, jitteriness.
Paroxetine hydrochloride (Paxil®) [F] (More evidence for fluoxetine) Migraine, Tension	10 mg (1/2 of a 20 mg tab) to 50 mg/day	Same as mentioned for fluoxetine (Prozac®).
<b>SEROTONIN &amp; NOREPINEPHRINE REUPTAKE INHIBITOR</b>		
Venlafaxine (Effexor) [F] Migraine, Tension	75mg titrate to bid, may advance to 150mg XR.	Side effects: drowsiness, dizziness, weakness, change in sexual function, nervousness or tremor
<b>CALCIUM CHANNEL BLOCKERS</b>		
Verapamil hydrochloride (Calan®) [F] Cluster, Migraine	240-480 mg/day. Referral to neurology recommended. Sometimes dosed higher for cluster headaches.	Benefit may be <i>delayed 3-4 weeks</i> . Divided doses are better than slow release preparations. Contraindications: Congestive heart failure, heart block, hypotension, sick sinus syndrome, atrial flutter or fibrillation. Side Effects: hypotension, atrioventricular block, heart failure, edema, headache, constipation, nausea.
Diltiazem hydrochloride [F] Migraine, Cluster (Evidence is not as compelling as for Verapamil)	120-480 mg/day	Same as mentioned for Verapamil (Calan®) [F]
<b>BETA BLOCKERS</b>		
Propranolol (Inderal®) [F] Migraine	40-320 mg/day	Underdosing is a major problem; divided doses are better than slow release preparations. Contraindications: congestive heart failure, diabetes, asthma. Side effects: drowsiness, nightmares, insomnia, depression, memory disturbances, decreased exercise tolerance, fatigue, impotence.
Atenolol (Tenormin®) [F] Migraine	50-150 mg/day	Same as mentioned for Inderal®

**SEROTONIN ANTAGONIST AND ERGOT DERIVATIVE**

Methysergide maleate (Sansert®) [NF] Migraine	2-8 mg in divided doses, up to 14 mg/day with meals	Should be reserved for patients with severe migraines that are not responsive to other prophylactic treatments. Idiosyncratic reaction of retroperitoneal, pulmonary, or endocardial fibrosis (1/5000). Side effects: nausea, muscle cramps, abdominal pain, weight gain, peripheral arterial insufficiency, blood dyscrasias. Drug free interval after each 6-month course of treatment.
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**ANTICONVULSANTS**

Topiramate (Topamax) [F] Migraine	Start @ 25mg bid titrate to 50mg bid	Side effects: drowsiness, dizziness, constipation, loss of coordination, numbness & tingling, tremor, weight loss, visual changes
Gabapentin (Neurontin) [F] Migraine	Initial therapy: 100-300mg qd to tid. Titrate up to 2,400mg per day in three divided doses.	Side effects: tiredness, drowsiness, dizziness, tremor, blurry vision
Valproate (Depakene®) [F] Migraine	Slow titration to therapeutic level; average 250 mg 3 times/day.	Side effects: nausea, drowsiness, platelet dysfunction, hair loss, hepatotoxicity
Divalproex (Depakote®) [F] Migraine	See above	Same as mentioned for Valproate (Depakene®) [F]

**LITHIUM**

Lithium (Eskalith®) [F] Cluster Only	300mg BID to TID	Monitor lithium blood levels, therapeutic range: 0.6-1.2 mEq/L. Tremor is most frequent side-effect. Long-term use may cause thyroid dysfunction. Hyponatremia increases toxicity. Other effects: confusion, ataxia, renal dysfunction.
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**NSAIDS**

Naproxen (Anaprox®) [F] Migraine	275 mg 3 times/day	Main risk, especially with long-term use, is gastrointestinal ulceration, bleeding, and perforation. Renal papillary necrosis, liver dysfunction, and anemia can occur. Possible cardiovascular risk as well.
Ibuprofen (Motrin®) [OTC] Migraine (Better evidence with naproxen)	300-1200 mg/day in divided doses	Same as mentioned for Naproxen (Anaprox®) [F]

**MUSCLE RELAXANTS**

Tizanidine (Zanaflex) [F] Migraine, Tension	4 mg 1/2 to 1 tablet po q 8 hours	Side effects: hypotension, drowsiness, dry mouth,, may elevate liver enzymes  Can be used as a preventive or acute medication
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Medication (Adjunct Therapies)	Recommended Dosages for Adults	Comments
Promethazine (Phenergan®)	50-125 mg P.O./day	Recommended as first-line agent for active

[F] Migraine	50-100 mg I.M./day 50-100 mg rectal/day All routes in divided doses of 12.5mg to 50mg each.  Administer every 4-6 hours PRN	nausea/vomiting. Lower risk for dystonia. Potential risk for tardive dyskinesia. Good choice for children at 0.5 mg/kg/6-8 hours
Metoclopramide (Reglan®) [F] Migraine	5-10 mg P.O./day 10 mg I.M./day 5-10 mg diluted I.V. every 8 hours as part of DHE-45 protocol (see above)  Administer every 8 hours PRN	Recommended as a first-line agent for active nausea/vomiting. Lower risk for dystonia. Potential risk for tardive dyskinesia.
Prochlorperazine (Compazine®) [F] Migraine, Cluster	10-40 mg P.O./day 5-40 mg I.M./I.V./day 2.5-50 mg rectal/day  Administer every 6 to 8 hours PRN. If administered rectally then administer twice per day	May cause burning in veins. Higher risk for dystonia. Potential risk for tardive dyskinesia. May be used in the primary treatment of acute migraine. (See Table 1 above.)
Chlorpromazine (Thorazine®) [F] Migraine	10-50 mg P.O./day 5-30 mg I.V. day (see above) 50-100 mg rectal/day	May cause burning in veins. Higher risk for dystonia. Potential risk for tardive dyskinesia. May be used in the primary treatment of acute migraine. (See Table 1 above.)