Patient Profile for Harrison, jr., Allgood

General Information

ID:	ahjr08102011
Prescriber:	Abadasy Grabasweeney M.D.
Name:	Harrison, jr., Allgood
Address:	1127 Holiday Inn Road
City:	St. Porta
State:	FL
Zip:	34566
Country:	USA
Phone:	123.345.4356 123.564.4576

Current Conditions

- abdominal pain
- anxiety
- autonomic neuropathy
- cholecystitis
- constipation
- depression
- gastroesophageal reflux disease (GERD)
- head trauma
- hot flashes
- hypercholesterolemia
- hyperlipidemia
- hypertriglyceridemia
- insomnia
- irritable bowel syndrome
- migraine
- narcolepsy
- nausea/vomiting
- neuropathic pain
- nutritional supplementation
- osteoporosis
- peripheral neuropathy
- pyrosis (heartburn)
- renal impairment
- sinusitis
- spinal cord trauma
- trigeminal neuralgia
- vertigo

Current Allergies

No allergies noted

Current Medications

- Medication
- Acetaminophen; Hydrocodone Dosage: 10mg/500mg Sig: every 4 hours as needed for Migraine
- Amitriptyline Dosage: 25mg Sig: for nerves
- Calcium 600mg Plus D Dosage: 600mg/200U Sig: 1 or 2 daily
- Chlorpheniramine Dosage: 4mg Sig: 2 to 3 times a day for sinus drainage
- Clonazepam Dosage: 0.25mg Sig: as needed for anxiety
- Clonazepam Dosage: 1mg Sig: four times a day
- Coenzyme Q10 Dosage: 10 Sig: tab 1 as needed for circulation
- Colace® Dosage: 100mg Sig: daily
- Cyanocobalamin, Vitamin B12 Dosage: 1000mcg Tablet Sig: daily
- Dicyclomine Dosage: 10mg Sig: PRN stomach cramps
- Fish Oil, Omega-3 Fatty Acids Dosage: 1200 mg Sig: tab 4 daily
- Lidocaine Dosage: Lidocaine & Mylanta Suspension Sig: 30cc as needed for stomach pain
- Meclizine Dosage: 25mg Sig: as needed for nausea, vomiting and vertigo
- Melatonin Dosage: 5mg Sig: at bedtime
- Mylanta® Sig: 15 cc as needed for heartburn and GERD
- Omeprazole Dosage: 40mg Sig: twice a day
- Provigil® Dosage: 200mg Sig: daily
- Tamsulosin Dosage: 0.4mg Sig: daily
- Therapeutic Multivitamin Tablets Sig: at bedtime
- Vitamin B-Complex 100 Sig: daily
- Vitamin C Dosage: 500 mg Sig: daily
- Vitamin E Dosage: 200 U Sig: cap 1 at bedtime
- WelChol® Dosage: 625 mg Sig: 2 twice a day
- Zolpidem Dosage: 10mg Sig: at bedtime for sleep

Dosing Parameters

Gender:	Male
Birthdate:	4/24/1946
Weight:	83.18 kgs
Height:	182.88 cm
Ideal Body Weight:	76.92 kgs
Body Surface Area:	2.06 m²
Serum Creatinine:	1.37 mg/dL
Creatinine Clearance:	58.49 mL/min

Notes

Title: Initial Interview & Assessment

Date: 02/12/2012

This 65 year old is on a list of drugs that change with each visit. He has visited multiple doctors who all in turn prescribed more medication. He does have stomach pains but trips to the Gastroenterologist proved no gastric problems and to the Cardiologist proved no cardiac problems yet the pain persists. Some of the problems are from all the sedative medications then stimulants then sedatives and a multitude of anticholinergic drugs which only exacerbate his main problem of depression. I believe these stomach and chest pains are due to anxiety and depression. He is currently in the process of separation from his wife, has serious hot flashes, feels weak and tired all the time, works an all night security shift and has financial problems. In the beginning he was being treated for IBS with WelChol and 80mg of PPI therapy and had constant diarrhea. I asked his attending physician to take a stool sample for C. Diff diarrhea and it was positive. Over the months we have stopped these drugs without any ill effects, proving

that he didn't have IBS. He has a legitimate reason for the depression and anxiety. He has lost the function of his testicles with complete removal of one and partial removal of the other, which exacerbate these problems. He doesn't have any problems abruptly stopping any medications as I have observed over the past few months so I discussed with him just stopping everything and starting all over, to which he has agreed. He is warned that he will feel sleepy probably throughout the initial titration of some of these drugs but he is in agreement to try and to notify me if he has problems with this. As far at the testosterone issue, we discussed his getting a saliva sample for a testosterone level and get the compounding pharmacy to make up a cream of testosterone to apply to gently raise his testosterone level enough to lessen the adverse effects he continues to experience. Since we are stopping all the previous drugs I will not present a detailed report on each drug as the combinations are obvious for adverse experiences.

Additionally for the physician's analysis and support of each statement made in this report, there are five (5) pages of references to substantiate all findings and recommendations.

Drug Therapy Management

Stop all drugs listed above

New Drug Therapy

Tramadol 50mg + Tylenol 325mg every 4 hours for mild to moderate pain
Lorcet 10mg/500mg every 8 hours for severe pain ONLY
Ranitidine 75mg as much as twice a day ONLY FOR SEVERE HEARTBURN
Librax (Clidinium) ONLY take one capsule AM, Noon, Bedtime x 30 days, then AM and bedtime x 30 days, then bedtime x 30 days STOP COMPLETELY
Melatonin 10mg when you go to bed.
Apple Cider Vinegar 30cc + Honey 30cc at bedtime and as needed for heartburn
Venlafaxine ER 37.5mg at 4PM x 5 doses then 75mg at 4PM x 5 doses then 150mg At 4PM thereafter
Citracal Maxium tablets take 1 tablet at breakfast, lunch and dinner
Centrum Silver (or like store brand) each AM
Fish Oil 1200mg at breakfast, lunch and dinner
Colace 100mg cap 1 in the evening to prevent constipation
Tamsulosin 0.4mg capsule at bedtime
Zyrtec 10mg daily
***Please have doctor write an order for a testosterone saliva test at Douglas Pharmacy in an effort to develop a cream to apply to gently bring up his testosterone levels enough to stop depravation symptoms.**

Remember that it will take time to see all the changes that the new drug therapy will produce. After completing the titration processes that are required, we should see big improvements relating to the complaints recorded. The additional vitamin supplements should also make you feel better after 30 days or so. Be sure Dr. McDonald gives you an order for the Saliva Testosterone test from Douglas Pharmacy and have the pharmacy send the results to me and Dr. McDonald. Call me every few days to discuss your progress or problems. This therapy may take a while to fully improve your problems but it will help you.

It is very important that we stay in touch. With this in mind I would like for you to call me if you experience any problems anytime and at least weekly to share your blood pressure and pulse values with me. These follow up calls are included in your initial fee and no further charges are placed on you until after our May visit. Please call in April and make an appointment for some time in May.

Let me remind you that this drug therapy regimen is thoroughly thought out and should be followed in its entirety. Choosing only bits and pieces of it may keep us from reaching our mutual goal of improvement in your quality of life and health. I am as close as your phone, so if problems occur please call me. *I look forward to seeing you for a follow-up visit around the end of April or the first of May but would like a progress report weekly by phone until we have all your medication dosages adjusted for you.*

Additionally a computerized analysis of the patient's current drug therapy accompanies this report with attached references for all areas of drug therapy.

Drug Interactions

Acetaminophen; Hydrocodone and Amitriptyline

Severity: Moderate

The use of monoamine oxidase inhibitors (MAOIs) or tricyclic antidepressants with acetaminophen; hydrocodone may increase the effect of either the antidepressant or hydrocodone.[6501] Additive CNS depression may occur. Caution should be exercised during concomitant use of any CNS-depressant drugs and acetaminophen; hydrocodone.

Pain medications such as pure opiate agonists, buprenorphine [5278], butorphanol, nalbuphine, or pentazocine should be combined cautiously with tricyclic antidepressants because they could cause additive depressant effects and possible respiratory depression or hypotension.[6947] Combining tricyclic antidepressants with opiate agonists may lead to additive effects on intestinal motility or bladder function.[7583] Specific opiate agonists warrant greater cautions; levomethadyl (an opiate agonist) is associated with an established risk of QT prolongation and/or torsades de pointes [4951] [5081], particularly at high drug concentrations.[5146] Levomethadyl is contraindicated in combination with other agents that may prolong the QT interval. Agents with potential to prolong the QT interval include tricyclic antidepressants (when given in excessive doses or overdosage).[5145] [5146]

Acetaminophen; Hydrocodone and Chlorpheniramine

Severity: Moderate

Concomitant use of hydrocodone with sedating H_1-blockers can potentiate respiratory depression and/or sedation. In addition, chlorpheniramine and diphenhydramine inhibit CYP2D6, an enzyme responsible for the metabolism of hydrocodone.[4718] Close monitoring for side effects in patients receiving hydrocodone-containing products and chlorpheniramine or diphenhydramine is recommended.

Although chlorpheniramine is mildly sedating, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants.[6568] CNS depressant drugs may include anxiolytics, sedatives, and hypnotics, barbiturates, buprenorphine, butorphanol, dronabinol, THC, entaMcDonaldne, ethanol [6341], haloperidol, general anesthetics, nabilone [9044], nalbuphine, opiate agonists, pentazocine, pramipexole, pregabalin [7523], risperidone, ropinirole, skeletal muscle relaxants, tolMcDonaldne, trazodone, tramadol, or other sedating H_1-blockers [6568]. Concurrent use of cannabinoids with sedating H_1-blockers may result in additive tachycardia, which may be pronounced.

Acetaminophen; Hydrocodone and Clonazepam

Severity: Moderate

Concomitant use of acetaminophen; hydrocodone with other CNS depressants can potentiate the CNS effects (e.g., sedation) or respiratory depression effects of both agents. CNS depressants include amoxapine, anxiolytics, sedatives, and hypnotics, clozapine, dronabinol, THC, droperidol, entaMcDonaldne, general anesthetics, sedating H_1-blockers, maprotiline, mirtazapine, molindone, nabilone [9044], nefazodone, olanzapine, opiate agonists, phenothiazines, pimozide, pramipexole, pregabalin, quetiapine, risperidone, ropinirole, skeletal muscle relaxants, tolMcDonaldne, tramadol and trazodone. If used concomitantly, the dosage of acetaminophen; hydrocodone and/or the other CNS depressant should be reduced.[6501]

Concomitant administration of clonazepam with other CNS-depressant drugs [7168], including barbiturates, buprenorphine, butorphanol, dronabinol, THC [7185], entaMcDonaldne [5769], ethanol [7198], sedating H_1-blockers, general anesthetics [6892], nabilone [9044], nalbuphine [6778], opiate agonists, pentazocine, phenothiazines, pregabalin [7523], tolMcDonaldne, tramadol, tricyclic antidepressants, or other anxiolytics, sedatives, and hypnotics, can potentiate the CNS effects (i.e., increased sedation or respiratory depression) of either agent.[5174] Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Acetaminophen; Hydrocodone and Dicyclomine

Severity: Moderate

Concurrent use of antidiarrheals and acetaminophen; hydrocodone can lead to severe constipation and possibly additive CNS depression. Opiate analgesics combined with antimuscarinics can cause severe constipation or paralytic ileus, especially with chronic use.

Opiate agonists should be used cautiously with antimuscarinics, such as dicyclomine, since additive depressive effects on GI motility or bladder function may been seen.[5986] [6839] Pharmacology texts report that meperidine exerts less pronounced effects on GI smooth muscle than other opiate agonists.

Acetaminophen; Hydrocodone and Meclizine

Severity: Moderate

Concomitant use of hydrocodone with sedating H_1-blockers can potentiate respiratory depression and/or sedation. In addition, chlorpheniramine and diphenhydramine inhibit CYP2D6, an enzyme responsible for the metabolism of hydrocodone.[4718] Close monitoring for side effects in patients receiving hydrocodone-containing products and chlorpheniramine or diphenhydramine is recommended.

Meclizine may produce significant sedative effects.[6348] Enhanced CNS depressant effects may occur when meclizine is combined with other CNS depressants including anxiolytics, sedatives, and hypnotics, barbiturates, buprenorphine, butorphanol, dronabinol, THC, entaMcDonaldne, ethanol [6341], general anesthetics, nabilone [9044], nalbuphine, opiate agonists, pentazocine, pramipexole, pregabalin [7523], ropinirole, skeletal muscle relaxants, tolMcDonaldne, tramadol, and psychotropic medications like haloperidol, risperidone or trazodone. In addition, concurrent use of cannabinoids with sedating H_1-blockers may result in additive tachycardia, which may be pronounced.

Acetaminophen; Hydrocodone and Zolpidem

Severity: Moderate

Concomitant use of acetaminophen; hydrocodone with other CNS depressants can potentiate the CNS effects (e.g., sedation) or respiratory depression effects of both agents. CNS depressants include amoxapine, anxiolytics, sedatives, and hypnotics, clozapine, dronabinol, THC, droperidol, entaMcDonaldne, general anesthetics, sedating H_1-blockers, maprotiline, mirtazapine, molindone, nabilone [9044], nefazodone, olanzapine, opiate agonists, phenothiazines, pimozide, pramipexole, pregabalin, quetiapine, risperidone, ropinirole, skeletal muscle relaxants, tolMcDonaldne, tramadol and trazodone. If used concomitantly, the dosage of acetaminophen; hydrocodone and/or the other CNS depressant should be reduced.[6501]

Ethanol has an additive effect on psychomotor performance when given with zolpidem. [6473] Sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and ethanol than with zolpidem alone.[6473] Other CNS depressant drugs may also have cumulative effects when administered concurrently and they should be used cautiously with zolpidem. These agents include certain antiparkinson drugs (entaMcDonaldne, pramipexole, ropinirole, tolMcDonaldne), dronabinol, THC, nabilone [9044], droperidol, general anesthetics, opiate agonists, mixed opiate agonists/antagonists (buprenorphine, butorphanol, nalbuphine, pentazocine), pregabalin [7523], sedating H_1-blockers, tramadol, trazodone, and any other anxiolytics, sedatives, and hypnotics (including barbiturates and benzodiazepines).[6473]

Amitriptyline and Chlorpheniramine

Severity: Moderate

Depending on the specific agent, additive anticholinergic effects may be seen when tricyclic antidepressants (TCAs) are used concomitantly drugs are known to possess relatively significant antimuscarinic properties, such as the sedating H_1-blockers.[5287] Amitriptyline has the greatest anticholinergic effects of the TCAs. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. Additive CNS effects are also possible.

Chlorpheniramine exhibits moderate anticholinergic effects.[6568] It is preferable to H_1-blockers from the ethanolamine or phenothiazine groups when an H1-blocker must be combined with drugs with anticholinergic activity, like the antimuscarinics [6338]. Other commonly used drugs with moderate to significant anticholinergic effects include amantadine, amoxapine, clozapine, cyclobenzaprine, disopyramide, maprotiline, olanzapine, orphenadrine, most phenothiazines, and most tricyclic antidepressants. Antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive drowsiness may also occur when combined with sedating antihistamines.

Amitriptyline and Clonazepam

Severity: Moderate

Tricyclic antidepressants (TCAs), when used concomitantly with anticonvulsants, can increase CNS depression and may also lower the seizure threshold, leading to pharmacodynamic interactions.[5287] In addition, pharmacokinetic interactions may occur. Valproic acid may reduce the metabolism of some TCAs. Barbiturates [4718], carbamazepine [4754], ethotoin, phenytoin [4718] or fosphenytoin may increase TCA metabolism. Monitor patients on anticonvulsants carefully when a TCA is used concurrently.[4754] [5287] Pregabalin, a drug chemically and structurally similar to gabapentin would have additive CNS depressants effects when combined with TCAs.[7523]

Anxiolytics, sedatives, and hypnotics should be combined cautiously with tricyclic antidepressants due to additive depressant effects and possible respiratory depression or hypotension.[5287] Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Some benzodiazepines have been reported to increase the concentrations of tricyclic antidepressants or metabolites when coadministered, but studies have been conflicting.[6130] [7577] The combination of benzodiazepines and TCAs is commonly used and is considered to be safe as long as patients are monitored for excessive adverse effects from either agent.

Concomitant administration of clonazepam with other CNS-depressant drugs [7168], including barbiturates, buprenorphine, butorphanol, dronabinol, THC [7185], entaMcDonaldne [5769], ethanol [7198], sedating H_1-blockers, general anesthetics [6892], nabilone [9044], nalbuphine [6778], opiate agonists, pentazocine, phenothiazines, pregabalin [7523], tolMcDonaldne, tramadol, tricyclic antidepressants, or other anxiolytics, sedatives, and hypnotics, can potentiate the CNS effects (i.e., increased sedation or respiratory depression) of either agent.[5174] Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Amitriptyline and Dicyclomine

Severity: Moderate

Depending on the specific agent, additive anticholinergic effects may be seen when tricyclic antidepressants (TCAs) are used concomitantly with other antimuscarinics.[5287] Amitriptyline has the greatest anticholinergic effects of the TCAs. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. Additive CNS effects are also possible.

Additive anticholinergic effects may be seen when dicyclomine is used concomitantly with other antimuscarinics.[6839] Other commonly used drugs with moderate to significant anticholinergic effects include amantadine [6839], amoxapine [5288], bupropion, clozapine [6839], cyclobenzaprine, disopyramide [6839], maprotiline [5491], olanzapine [6839], orphenadrine [6839], the sedating H_1-blockers [6839], most phenothiazines [6839], procainamide [4977], quinidine [6839], and most tricyclic antidepressants [6839]. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive drowsiness may also occur when combined with dicyclomine.

Amitriptyline and Meclizine

Severity: Moderate

Depending on the specific agent, additive anticholinergic effects may be seen when tricyclic antidepressants (TCAs) are used concomitantly drugs are known to possess relatively significant antimuscarinic properties, such as the sedating H_1-blockers.[5287] Amitriptyline has the greatest anticholinergic effects of the TCAs. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. Additive CNS effects are also possible.

Meclizine is an H1-blocker which exhibits significant anticholinergic effects.[6348] The anticholinergic effects of meclizine may be enhanced when combined with other drugs with antimuscarinic activity,[6338] including other sedating H_1-blockers [6568]. Other commonly used drugs with significant anticholinergic effects include amantadine, amoxapine, antimuscarinics, clozapine, cyclobenzaprine, disopyramide, maprotiline, olanzapine, orphenadrine, most phenothiazines, and most tricyclic antidepressants. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive sedation may also occur when combined with meclizine.

Amitriptyline and Zolpidem

Severity: Moderate

Anxiolytics, sedatives, and hypnotics should be combined cautiously with tricyclic antidepressants due to additive depressant effects and possible respiratory depression or hypotension.[5287] Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Zolpidem appears to interact with tricyclic antidepressants and may cause decreased alertness. Zolpidem reduced peak serum concentrations of imipramine [6473] by 20%, but other pharmacokinetic parameters were not affected. In rare case reports, zolpidem has caused visual hallucinations or loss of alertness when these drugs (e.g., imipramine, desipramine) were administered concurrently. Interactions with other tricyclic antidepressants have not been studied, but additive drowsiness is also possible. Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Amitriptyline and Modafinil (Provigil®)

Severity: Moderate

Modafinil inhibits the CYP2C19 and hepatic microsomal isoenzyme at pharmacologically relevant concentrations.[4718] Some tricyclic antidepressants (i.e., amitriptyline, clomipramine, imipramine, and trimipramine) are metabolized by this isoenzyme and may have prolonged elimination upon coadministration of modafinil. One case of a patient who experienced increased side effects and increased serum levels of clomipramine during modafinil treatment has been reported.[5525] Tricyclic antidepressants may be prescribed to the narcoleptic patient for the treatment of cataplexy; however, patients on tricyclic antidepressants and modafinil concurrently may require antidepressant dose reductions.

Calcium; Vitamin D (Calcium 600mg Plus D) **and Ergocalciferol, Vitamin D2** (found in Therapeutic Multivitamin Tablets)

Severity: Moderate

The use of other vitamin D analogs with calcium; vitamin D is not recommended because of the increased potential for additive effects and toxicity.[6902] [6904]

Calcium; Vitamin D (Calcium 600mg Plus D) **and Calcium Salts** (found in Therapeutic Multivitamin Tablets)

Severity: Moderate

The concurrent use of calcium; vitamin D with other calcium salts increases serum calcium concentrations [6916] and may result in hypercalcemia. If other calcium containing medications are necessary, supplementation may have to be discontinued in order to avoid hypercalcemia.

Calcium; Vitamin D (Calcium 600mg Plus D) **and Vitamin A** (found in Therapeutic Multivitamin Tablets)

Severity: Low

Doses of vitamin A in excess of 1,500-2,000 mcg/day may lead to bone loss and will counteract the effects of calcium; vitamin D supplementation. This adverse effect of vitamin A on bone density does not apply to beta carotene or mixed carotenoids.[8242] [8257]

Chlorpheniramine and Clonazepam

Severity: Moderate

Although chlorpheniramine is mildly sedating, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants.[6568] CNS depressant drugs may include anxiolytics, sedatives, and hypnotics, barbiturates, buprenorphine, butorphanol, dronabinol, THC, entaMcDonaldne, ethanol [6341], haloperidol, general anesthetics, nabilone [9044], nalbuphine, opiate agonists, pentazocine, pramipexole, pregabalin [7523], risperidone, ropinirole, skeletal muscle relaxants, tolMcDonaldne, trazodone, tramadol, or other sedating H_1-blockers [6568]. Concurrent use of cannabinoids with sedating H_1-blockers may result in additive tachycardia, which may be pronounced.

Concomitant administration of clonazepam with other CNS-depressant drugs [7168], including barbiturates, buprenorphine, butorphanol, dronabinol, THC [7185], entaMcDonaldne [5769], ethanol [7198], sedating H_1-blockers, general anesthetics [6892], nabilone [9044], nalbuphine [6778], opiate agonists, pentazocine, phenothiazines, pregabalin [7523], tolMcDonaldne, tramadol, tricyclic antidepressants, or other anxiolytics, sedatives, and hypnotics, can potentiate the CNS effects (i.e., increased sedation or

respiratory depression) of either agent.[5174] Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Chlorpheniramine and Dicyclomine

Severity: Moderate

Chlorpheniramine exhibits moderate anticholinergic effects.[6568] It is preferable to H_1-blockers from the ethanolamine or phenothiazine groups when an H1-blocker must be combined with drugs with anticholinergic activity, like the antimuscarinics [6338]. Other commonly used drugs with moderate to significant anticholinergic effects include amantadine, amoxapine, clozapine, cyclobenzaprine, disopyramide, maprotiline, olanzapine, orphenadrine, most phenothiazines, and most tricyclic antidepressants. Antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive drowsiness may also occur when combined with sedating antihistamines.

Additive anticholinergic effects may be seen when dicyclomine is used concomitantly with other antimuscarinics.[6839] Other commonly used drugs with moderate to significant anticholinergic effects include amantadine [6839], amoxapine [5288], bupropion, clozapine [6839], cyclobenzaprine, disopyramide [6839], maprotiline [5491], olanzapine [6839], orphenadrine [6839], the sedating H_1-blockers [6839], most phenothiazines [6839], procainamide [4977], quinidine [6839], and most tricyclic antidepressants [6839]. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive drowsiness may also occur when combined with dicyclomine.

Chlorpheniramine and Meclizine

Severity: High

Although chlorpheniramine is mildly sedating, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants.[6568] CNS depressant drugs may include anxiolytics, sedatives, and hypnotics, barbiturates, buprenorphine, butorphanol, dronabinol, THC, entaMcDonaldne, ethanol [6341], haloperidol, general anesthetics, nabilone [9044], nalbuphine, opiate agonists, pentazocine, pramipexole, pregabalin [7523], risperidone, ropinirole, skeletal muscle relaxants, tolMcDonaldne, trazodone, tramadol, or other sedating H_1-blockers [6568]. Concurrent use of cannabinoids with sedating H_1-blockers may result in additive tachycardia, which may be pronounced.

Meclizine is an H1-blocker which exhibits significant anticholinergic effects.[6348] The anticholinergic effects of meclizine may be enhanced when combined with other drugs with antimuscarinic activity,[6338] including other sedating H_1-blockers [6568]. Other commonly used drugs with significant anticholinergic effects include amantadine, amoxapine, antimuscarinics, clozapine, cyclobenzaprine, disopyramide, maprotiline, olanzapine, orphenadrine, most phenothiazines, and most tricyclic antidepressants. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive sedation may also occur when combined with meclizine.

Chlorpheniramine and Zolpidem

Severity: Moderate

Although chlorpheniramine is mildly sedating, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants.[6568] CNS depressant drugs may include anxiolytics, sedatives, and hypnotics, barbiturates, buprenorphine, butorphanol, dronabinol, THC, entaMcDonaldne, ethanol [6341], haloperidol, general anesthetics, nabilone [9044], nalbuphine, opiate agonists, pentazocine, pramipexole, pregabalin [7523], risperidone, ropinirole, skeletal muscle relaxants, tolMcDonaldne, trazodone, tramadol, or other sedating H_1-blockers [6568]. Concurrent use of cannabinoids with sedating H_1-blockers may result in additive tachycardia, which may be pronounced.

Ethanol has an additive effect on psychomotor performance when given with zolpidem. [6473] Sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and ethanol than with zolpidem alone.[6473] Other CNS depressant drugs may also have cumulative effects when administered concurrently and they should be used cautiously with zolpidem. These agents include certain antiparkinson drugs (entaMcDonaldne, pramipexole, ropinirole, tolMcDonaldne), dronabinol, THC, nabilone [9044], droperidol, general anesthetics, opiate agonists, mixed opiate agonists/antagonists (buprenorphine, butorphanol, nalbuphine, pentazocine), pregabalin [7523], sedating H_1-blockers, tramadol, trazodone, and any other anxiolytics, sedatives, and hypnotics (including barbiturates and benzodiazepines).[6473]

Clonazepam and Meclizine

Severity: Moderate

Concomitant administration of clonazepam with other CNS-depressant drugs [7168], including barbiturates, buprenorphine, butorphanol, dronabinol, THC [7185], entaMcDonaldne [5769], ethanol [7198], sedating H_1-blockers, general anesthetics [6892], nabilone [9044], nalbuphine [6778], opiate agonists, pentazocine, phenothiazines, pregabalin [7523], tolMcDonaldne, tramadol, tricyclic antidepressants, or other anxiolytics, sedatives, and hypnotics, can potentiate the CNS effects (i.e., increased sedation or respiratory depression) of either agent.[5174] Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Meclizine may produce significant sedative effects.[6348] Enhanced CNS depressant effects may occur when meclizine is combined with other CNS depressants including anxiolytics, sedatives, and hypnotics, barbiturates, buprenorphine, butorphanol, dronabinol, THC, entaMcDonaldne, ethanol [6341], general anesthetics, nabilone [9044], nalbuphine, opiate agonists, pentazocine, pramipexole, pregabalin [7523], ropinirole, skeletal muscle relaxants, tolMcDonaldne, tramadol, and psychotropic medications like haloperidol, risperidone or trazodone. In addition, concurrent use of cannabinoids with sedating H_1-blockers may result in additive tachycardia, which may be pronounced.

Clonazepam and Zolpidem

Severity: Moderate

Concomitant administration of clonazepam with other CNS-depressant drugs [7168], including barbiturates, buprenorphine, butorphanol, dronabinol, THC [7185], entaMcDonaldne [5769], ethanol [7198], sedating H_1-blockers, general anesthetics [6892], nabilone [9044], nalbuphine [6778], opiate agonists, pentazocine, phenothiazines, pregabalin [7523], tolMcDonaldne, tramadol, tricyclic antidepressants, or other anxiolytics, sedatives, and hypnotics, can potentiate the CNS effects (i.e., increased sedation or respiratory depression) of either agent.[5174] Additionally, sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and other CNS depressants than with zolpidem alone.[6473]

Ethanol has an additive effect on psychomotor performance when given with zolpidem. [6473] Sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and ethanol than with zolpidem alone.[6473] Other CNS depressant drugs may also have cumulative effects when administered concurrently and they should be used cautiously with zolpidem. These agents include certain antiparkinson drugs (entaMcDonaldne, pramipexole, ropinirole, tolMcDonaldne), dronabinol, THC, nabilone [9044], droperidol, general anesthetics, opiate agonists, mixed opiate agonists/antagonists (buprenorphine, butorphanol, nalbuphine, pentazocine), pregabalin [7523], sedating H_1-blockers, tramadol, trazodone, and any other anxiolytics, sedatives, and hypnotics (including barbiturates and benzodiazepines).[6473]

Clonazepam and Melatonin

Severity: Moderate

It appears prudent to recommend caution when clonazepam is prescribed in conjunction with melatonin. In animal studies, melatonin has been shown to increase benzodiazepine binding to receptor sites, and this may result in clinically significant drug interactions. Case reports exist of concomitant benzodiazepine and melatonin use in humans; the cases resulted in lethargy, short-term amnestic responses, or prolonged benzodiazepine activity. These apparent interactions could have been the result of a pharmacokinetic or pharmacodynamic enhancement of benzodiazepine activity by melatonin.

In animal studies, melatonin has been shown to increase benzodiazepine binding to receptor sites, and this may result in clinically significant drug interactions. One case report noted that nightly melatonin administration allowed a benzodiazepine-dependent woman with an 11 year history of insomnia to wean and discontinue her benzodiazepine prescription within a few days without rebound insomnia or apparent benzodiazepine withdrawal.[2106] Another case report of excessive melatonin ingestion along with normal doses of chlordiazepoxide and amitriptyline resulted in lethargy and short-term amnestic responses.[2107] (see Adverse Reactions). Both cases could have been the result of a pharmacokinetic or pharmacodynamic enhancement of benzodiazepine activity by melatonin. Until more data are available, use caution when combining melatonin with other traditional anxiolytics, sedatives, and hypnotics, including benzodiazepines. Additionally, melatonin should not be combined with the use of ramelteon until interaction studies demonstrate safety. These two agents may be used for similar indications (quicker sleep onset) and the combined use could produce additive sedative effects or additive adverse effects.

Clonazepam and Colesevelam (WelChol®)

Severity: Moderate

The manufacturer for colesevelam suggests monitoring serum drug concentrations and/or clinical effects for those drugs for which alterations in serum blood concentrations have a clinically significant effect on safety or efficacy.[7576] To minimize potential for interactions, consider administering oral anticonvulsants such as clonazepam at least 4 hours before colesevelam.

During post-marketing reports, it has been suggested that colesevelam may also interfere with the absorption of phenytoin. Phenytoin should be administered at least 4 hours before colesevelam. The manufacturer recommends that when administering other drugs with a narrow therapeutic index, consideration should be given to separating the administration of the drug with colesevelam. Although not specifically studied, it may be prudent to administer other anticonvulsants at least 4 hours before colesevelam.[7576] Additionally, drug response and/or serum concentrations should also be monitored.

Cyanocobalamin, Vitamin B12 (found in Therapeutic Multivitamin Tablets) **and Omeprazole**

Severity: Low

In a study of 10 healthy male volunteers, omeprazole, in doses of 20 mg-40 mg per day, caused a significant decrease in the oral absorption of cyanocobalamin, vitamin B12.[162] Theoretically this interaction is possible with other proton pump inhibitors (PPIs), although specific clinical data are lacking. Patients receiving long-term therapy with omeprazole or other proton pump inhibitors (PPIs) should be monitored for signs of B12 deficiency.

Omeprazole increases the pH of the stomach.[6305] Changes in intragastric pH can potentially alter the bioavailability of drugs with pH-dependent absorption. It has been shown that omeprazole can impair absorption of cyanocobalamin, vitamin B12. In a study of 10 healthy male volunteers, omeprazole, in doses of 20 mg/day and 40 mg/day, caused a significant decrease in the oral absorption of vitamin B12.[162] It is thought that omeprazole interferes with secretion of gastric acid and pepsin which are necessary for the release of B12 from its protein binding sites in food.[162]

Dicyclomine and Clonazepam

Severity: Moderate

Dicyclomine can cause drowsiness,[6839] so it should be used cautiously in patients receiving CNS depressants like ethanol [6341] or anxiolytics, sedatives, and hypnotics.

Dicyclomine and Meclizine

Severity: Moderate

Additive anticholinergic effects may be seen when dicyclomine is used concomitantly with other antimuscarinics.[6839] Other commonly used drugs with moderate to significant anticholinergic effects include amantadine [6839], amoxapine [5288], bupropion, clozapine [6839], cyclobenzaprine, disopyramide [6839], maprotiline [5491], olanzapine [6839], orphenadrine [6839], the sedating H_1-blockers [6839], most phenothiazines [6839], procainamide [4977], quinidine [6839], and most tricyclic antidepressants [6839]. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive drowsiness may also occur when combined with dicyclomine.

Meclizine is an H1-blocker which exhibits significant anticholinergic effects.[6348] The anticholinergic effects of meclizine may be enhanced when combined with other drugs with antimuscarinic activity,[6338] including other sedating H_1-blockers [6568]. Other commonly used drugs with significant anticholinergic effects include amantadine, amoxapine, antimuscarinics, clozapine, cyclobenzaprine, disopyramide, maprotiline, olanzapine, orphenadrine, most phenothiazines, and most tricyclic antidepressants. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. With many of the listed agents, additive sedation may also occur when combined with meclizine.

Dicyclomine and Zolpidem

Severity: Moderate

Dicyclomine can cause drowsiness,[6839] so it should be used cautiously in patients receiving CNS depressants like ethanol [6341] or anxiolytics, sedatives, and hypnotics.

Dicyclomine and Aluminum Hydroxide; Magnesium Hydroxide; Simethicone (Mylanta®)

Severity: Moderate

Antacids may inhibit the oral absorption of dicyclomine [6839] and other antimuscarinics. Simultaneous oral administration of dicylcomine with an antacid should be avoided when feasible; separate dosing by at least 2 hours to limit an interaction.

Aluminum hydroxide; magnesium hydroxide; simethicone inhibits the oral absorption of antimuscarinics, captopril, chlordiazepoxide, delavirdine, diazepam, indomethacin, penicillamine, phenytoin, and phenothiazines (particularly chlorpromazine). Simultaneous administration should be avoided; separate dosing by at least 2 hours to limit an interaction.

Lidocaine and Amitriptyline

Severity: High

If epinephrine is added to lidocaine for the purpose of infiltration and nerve block or spinal anesthesia, receipt of the product to a patient taking tricyclic antidepressants (TCA) may lead to severe, prolonged hypertension.[7200] In general, concurrent use of a local anesthetic solution containing epinephrine and a TCA should be avoided.[5330] If coadministration is necessary, careful patient monitoring is essential.

Lidocaine and Acetaminophen; Hydrocodone

Severity: Low

Due to the central nervous system (CNS) depression potential of all local anesthetics (see Adverse Reactions) [5040], they should be used with caution with other agents that can cause respiratory depression, such as opiate agonists. Excitation or depression of the CNS may be the first manifestation of CNS toxicity. Restlessness, anxiety, tinnitus, dizziness, blurred vision, tremors, depression, or drowsiness may be early warning signs of CNS toxicity. After each local anesthetic injection, careful and constant monitoring of ventilation adequacy, cardiovascular vital signs, and the patient's state of consciousness is advised.[5731]

Meclizine and Zolpidem

Severity: Moderate

Meclizine may produce significant sedative effects.[6348] Enhanced CNS depressant effects may occur when meclizine is combined with other CNS depressants including anxiolytics, sedatives, and hypnotics, barbiturates, buprenorphine, butorphanol, dronabinol, THC, entaMcDonaldne, ethanol [6341], general anesthetics, nabilone [9044], nalbuphine, opiate agonists, pentazocine, pramipexole, pregabalin [7523], ropinirole, skeletal muscle relaxants, tolMcDonaldne, tramadol, and psychotropic medications like haloperidol, risperidone or trazodone. In addition, concurrent use of cannabinoids with sedating H_1-blockers may result in additive tachycardia, which may be pronounced.

Ethanol has an additive effect on psychomotor performance when given with zolpidem. [6473] Sleep-related behaviors, such as sleep-driving, are more likely to occur during concurrent use of zolpidem and ethanol than with zolpidem alone.[6473] Other CNS depressant drugs may also have cumulative effects when administered concurrently and they should be used cautiously with zolpidem. These agents include certain antiparkinson drugs (entaMcDonaldne, pramipexole, ropinirole, tolMcDonaldne), dronabinol, THC, nabilone [9044], droperidol, general anesthetics, opiate agonists, mixed opiate agonists/antagonists (buprenorphine, butorphanol, nalbuphine, pentazocine), pregabalin [7523], sedating H_1-blockers, tramadol, trazodone, and any other anxiolytics, sedatives, and hypnotics (including barbiturates and benzodiazepines).[6473]

Melatonin and Zolpidem

Severity: Moderate

Any substance that acts on the CNS may interact with valerian, Valeriana officinalis; kava kava, Piper methysticum [5559]; or melatonin [2100]. These interactions are probably pharmacodynamic in nature, or result from additive mechanisms of action. The possibility of pharmacodynamic interactions at normal prescription dosages of zolpidem signals the need for patients to avoid concomitant administration of dietary supplements promoted for sleep and relaxation.[5314] [5565] [5566]

In animal studies, melatonin has been shown to increase benzodiazepine binding to receptor sites, and this may result in clinically significant drug interactions. One case report noted that nightly melatonin administration allowed a benzodiazepine-dependent woman with an 11 year history of insomnia to wean and discontinue her benzodiazepine prescription within a few days without rebound insomnia or apparent benzodiazepine withdrawal.[2106] Another case report of excessive melatonin ingestion along with normal doses of chlordiazepoxide and amitriptyline resulted in lethargy and short-term amnestic responses.[2107] (see Adverse Reactions). Both cases could have been the result of a pharmacokinetic or pharmacodynamic enhancement of benzodiazepine activity by

melatonin. Until more data are available, use caution when combining melatonin with other traditional anxiolytics, sedatives, and hypnotics, including benzodiazepines. Additionally, melatonin should not be combined with the use of ramelteon until interaction studies demonstrate safety. These two agents may be used for similar indications (quicker sleep onset) and the combined use could produce additive sedative effects or additive adverse effects.

Aluminum Hydroxide; Magnesium Hydroxide; Simethicone (Mylanta®) **and Ergocalciferol, Vitamin D2** (found in Therapeutic Multivitamin Tablets)

Severity: High

Aluminum hydroxide; magnesium hydroxide; simethicone should not be used in patients receiving vitamin D analogs. Vitamin D analogs can increase both serum aluminum and magnesium concentrations. This is of primary significance in patients with chronic renal failure.

Aluminum Hydroxide; Magnesium Hydroxide; Simethicone (Mylanta®) **and Ascorbic Acid, Vitamin C** (found in Therapeutic Multivitamin Tablets, Vitamin C)

Severity: Low

Aluminum hydroxide; magnesium hydroxide; simethicone interacts with urinary acidifiers (e.g., ammonium chloride; ascorbic acid, vitamin C; or sodium acid phosphate) by alkalinizing the urine. Frequent use of high doses of antacids should be avoided by patients receiving urinary acidifiers.

Omeprazole and Dicyclomine

Severity: Moderate

The American College of Gastroenterology states that the effectiveness of proton pump inhibitors (PPIs) may be decreased if given with other antisecretory agents, such as antimuscarinics.[1569] Proton pump inhibitors (PPIs) inhibit only actively secreting H+-pumps.

Tamsulosin and Chlorpheniramine

Severity: Moderate

Hepatic cytochrome P450 enzymes 2D6 and 3A4 are responsible for the extensive metabolism of tamsulosin. Although no clinical studies have been done, tamsulosin should be used cautiously with moderate or potent inhibitors of these enzymes.[6419] Drugs which inhibit both CYP2D6 and CYP3A4 may cause significant increases in tamsulosin plasma concentrations. They include amiodarone [4950] [5629], delavirdine [5206], fluoxetine [6130] [5915] [8086], fluvoxamine [6130] [649]; imatinib, STI-571 [4966]; propoxyphene [4718], ranolazine [8747], ritonavir [4194], and tipranavir [8102]. Tamsulosin should also be used with caution with inhibitors of CYP3A4 isoenzymes which include anti-retroviral protease inhibitors [1800], certain azole antifungals (e.g., fluconazole, itraconazole, IV miconazole, ketoconazole, voriconazole) [4718], certain macrolide antibiotics (e.g., clarithromycin, erythromycin, telithromycin, troleandomycin) [4718], aprepitant [7438], chloramphenicol [6366], conivaptan [8569], cyclosporine [4718], dalfopristin; quinupristin [5221], danazol [4718], efavirenz (CYP3A4 inducer or inhibitor) [5172], diltiazem [5004], ethinyl estradiol [4718], grapefruit juice [4718], isoniazid, INH [4222] [4223]; mifepristone, RU-486 [4718], nefazodone [4760], nicardipine [4718], tamoxifen [4718], verapamil [4718], zileuton [5415], and zafirlukast.[4718] Other inhibitors of CYP2D6 should also be used cautiously with tamsulosin. These include bupropion [4718] [4781], chloroquine [4718], chlorpheniramine [4718], chlorpromazine [4718], cinacalcet [4849], citalopram [4718] [4996], diphenhydramine [4718], duloxetine [5485] [6682], escitalopram [4997], gefitinib [5012], halofantrine [4718], haloperidol [4718], paroxetine [4718], perphenazine [4718], promethazine [4718], propafenone [4718], quinacrine [4718], quinidine [4718] [4976], quinine [4718], risperidone [4718] [5144], sertraline [4718], terbinafine [6586], thioridazine [4718], and venlafaxine [5924]. This list is not inclusive of all agents that may inhibit CYP2D6 and/or CYP3A4.

Colesevelam (WelChol®) **and Ascorbic Acid, Vitamin C** (found in Therapeutic Multivitamin Tablets, Vitamin C)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Cyanocobalamin, Vitamin B12** (found in Therapeutic Multivitamin Tablets)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Ergocalciferol, Vitamin D2** (found in Therapeutic Multivitamin Tablets)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Folic Acid, Vitamin B9** (found in Therapeutic Multivitamin Tablets)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Lidocaine**

Severity: Moderate

Oral drugs with a narrow therapeutic range, with the potential for loss of efficacy with reduced absorption, include antiarrhythmics. The manufacturer recommends that when administering other drugs with a narrow therapeutic index, consideration should be given to separating the administration of the drug with colesevelam. Although not specifically studied, it may be prudent to administer antiarrhythmics at least 4 hours before colesevelam. Additionally, drug response and/or serum concentrations should also be monitored.[7576]

Colesevelam (WelChol®) **and Pantothenic Acid, Vitamin B5** (found in Therapeutic Multivitamin Tablets, Vitamin B-Complex 100)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Pyridoxine, Vitamin B6** (found in Therapeutic Multivitamin Tablets, Vitamin B-Complex 100)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Riboflavin, Vitamin B2** (found in Therapeutic Multivitamin Tablets, Vitamin B-Complex 100)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Thiamine, Vitamin B1** (found in Therapeutic Multivitamin Tablets, Vitamin B-Complex 100)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Vitamin A** (found in Therapeutic Multivitamin Tablets)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Vitamin E** (found in Therapeutic Multivitamin Tablets)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Colesevelam (WelChol®) **and Niacin, Niacinamide** (found in Therapeutic Multivitamin Tablets, Vitamin B-Complex 100)

Severity: Moderate

It is not known if colesevelam can reduce the absorption of oral vitamin supplements including fat soluble vitamins A, D, E, and K. In non-clinical safety studies, rats administered colesevelam at doses greater than 30-fold the projected human clinical dose experienced hemorrhage from vitamin K deficiency.[7576] To minimize potential interactions, administer vitamins at least 4 hours before colesevelam.

Adverse Reactions

• abdominal pain (Amitriptyline | Chlorpheniramine | Clonazepam | Colace® | Meclizine | Omeprazole | Acetaminophen; Hydrocodone | Melatonin | Calcium 600mg Plus D)
• acute generalized exanthematous pustulosis (AGEP) (Acetaminophen; Hydrocodone)
• agitation (Amitriptyline | Zolpidem | Provigil®)
• agranulocytosis (Chlorpheniramine | Omeprazole | Acetaminophen; Hydrocodone)
• akathisia (Amitriptyline)
• alopecia (Omeprazole)
• amblyopia (Provigil® | Tamsulosin)
• amnesia (Clonazepam | Zolpidem | Provigil®)
• anaphylactic shock (Cyanocobalamin, Vitamin B12 | Lidocaine | Acetaminophen; Hydrocodone)
• anaphylactoid reactions (Lidocaine | Omeprazole | Zolpidem | Acetaminophen; Hydrocodone)
• anemia (Vitamin C | Omeprazole | Calcium 600mg Plus D)
• angina (Lidocaine | Provigil® | Fish Oil, Omega-3 Fatty Acids)
• angioedema (Cyanocobalamin, Vitamin B12 | Lidocaine | Omeprazole | Zolpidem | Acetaminophen; Hydrocodone | Tamsulosin)
• anhidrosis (Dicyclomine)
• anorexia (Amitriptyline | Meclizine | Omeprazole | Provigil® | Acetaminophen; Hydrocodone | Mylanta® | Calcium 600mg Plus D)
• anxiety (Amitriptyline | Clonazepam | Cyanocobalamin, Vitamin B12 | Lidocaine | Zolpidem | Provigil®)
• aplastic anemia (Chlorpheniramine)
• appetite stimulation (Meclizine)
• arachnoiditis (Lidocaine)
• arrhythmia exacerbation (Lidocaine | Provigil®)
• arthralgia (Zolpidem | Provigil® | Calcium 600mg Plus D)
• asthenia (Meclizine | Zolpidem | Provigil® | Tamsulosin | WelChol®)
• asystole (Provigil®)

• ataxia (Chlorpheniramine | Clonazepam | Cyanocobalamin, Vitamin B12 | Meclizine | Zolpidem | Provigil® | Calcium 600mg Plus D)
• azotemia (Calcium 600mg Plus D)
• back pain (Vitamin C | Tamsulosin | Fish Oil, Omega-3 Fatty Acids)
• bleeding (Lidocaine | Vitamin E | Acetaminophen; Hydrocodone | Fish Oil, Omega-3 Fatty Acids)
• blurred vision (Amitriptyline | Chlorpheniramine | Clonazepam | Dicyclomine | Lidocaine | Meclizine | Vitamin E | Provigil®)
• bradycardia (Clonazepam | Lidocaine | Acetaminophen; Hydrocodone)
• breast enlargement (Amitriptyline)
• bronchospasm (Lidocaine | Provigil®)
• cardiac arrest (Lidocaine | Acetaminophen; Hydrocodone)
• cardiomyopathy (Amitriptyline)
• chest pain (unspecified) (Zolpidem | Provigil® | Tamsulosin)
• chills (Provigil®)
• confusion (Amitriptyline | Chlorpheniramine | Clonazepam | Lidocaine | Meclizine | Zolpidem | Provigil® | Acetaminophen; Hydrocodone | Melatonin)
• conjunctival hyperemia (Lidocaine)
• constipation (Amitriptyline | Chlorpheniramine | Clonazepam | Dicyclomine | Meclizine | Omeprazole | Zolpidem | Acetaminophen; Hydrocodone | Mylanta® | WelChol® | Calcium 600mg Plus D)
• contact dermatitis (Vitamin E | Acetaminophen; Hydrocodone)
• corneal opacification (Lidocaine)
• costovertebral pain (Vitamin C)
• cough (Omeprazole)
• cycloplegia (Amitriptyline | Dicyclomine)
• decreased uterine contractility (Lidocaine)
• dehydration (Mylanta®)
• dental caries (Vitamin C)
• depression (Clonazepam | Zolpidem | Provigil® | Melatonin)
• diarrhea (Amitriptyline | Vitamin C | Cyanocobalamin, Vitamin B12 | Colace® | Omeprazole | Vitamin E | Zolpidem | Provigil® | Tamsulosin | Mylanta® | Fish Oil, Omega-3 Fatty Acids | Calcium 600mg Plus D)
• diplopia (Clonazepam | Zolpidem)
• diuresis (Mylanta®)
• dizziness (Amitriptyline | Vitamin C | Chlorpheniramine | Clonazepam | Dicyclomine | Lidocaine | Meclizine | Omeprazole | Zolpidem | Provigil® | Acetaminophen; Hydrocodone | Tamsulosin)
• drowsiness (Amitriptyline | Chlorpheniramine | Clonazepam | Dicyclomine | Lidocaine | Meclizine | Zolpidem | Acetaminophen; Hydrocodone | Tamsulosin | Melatonin)
• dysarthria (Clonazepam)
• dysesthesia (Lidocaine)
• dysgeusia (Dicyclomine | Lidocaine | Tamsulosin | Fish Oil, Omega-3 Fatty Acids)
• dyskinesia (Meclizine | Provigil®)
• dyspepsia (Zolpidem | Tamsulosin | Melatonin | WelChol® | Fish Oil, Omega-3 Fatty Acids)
• dysphagia (Dicyclomine | WelChol®)
• dyspnea (Lidocaine | Zolpidem | Provigil®)
• dystonic reaction (Meclizine)
• ecchymosis (Lidocaine | Fish Oil, Omega-3 Fatty Acids)
• edema (Lidocaine | Acetaminophen; Hydrocodone)
• EEG changes (Amitriptyline)
• ejaculation dysfunction (Amitriptyline | Provigil® | Tamsulosin)
• elevated hepatic enzymes (Omeprazole | Provigil® | Acetaminophen; Hydrocodone | WelChol®)
• emotional lability (Provigil®)
• encephalopathy (Acetaminophen; Hydrocodone | Mylanta®)
• enterocolitis (Vitamin E)
• eosinophilia (Provigil®)
• epistaxis (Provigil® | Fish Oil, Omega-3 Fatty Acids)
• eructation (Fish Oil, Omega-3 Fatty Acids | Calcium 600mg Plus D)
• erythema (Amitriptyline | Lidocaine | Acetaminophen; Hydrocodone)
• erythema multiforme (Omeprazole)
• euphoria (Clonazepam | Lidocaine | Zolpidem | Provigil®)
• exfoliative dermatitis (Omeprazole | Acetaminophen; Hydrocodone)
• fatigue (Clonazepam | Meclizine | Vitamin E | Calcium 600mg Plus D)
• fetal acidosis (Lidocaine)
• fetal bradycardia (Lidocaine)
• fever (Amitriptyline | Provigil® | Acetaminophen; Hydrocodone)
• flatulence (Calcium 600mg Plus D)

• flushing (Vitamin C | Clonazepam | Dicyclomine)
• galactorrhea (Amitriptyline)
• gastric hypersecretion (Calcium 600mg Plus D)
• GI obstruction (Mylanta® | WelChol®)
• gingivitis (Lidocaine | Provigil®)
• growth inhibition (Calcium 600mg Plus D)
• gynecomastia (Amitriptyline | Omeprazole)
• halitosis (Fish Oil, Omega-3 Fatty Acids)
• hallucinations (Chlorpheniramine | Meclizine | Zolpidem | Provigil® | Acetaminophen; Hydrocodone)
• headache (Vitamin C | Chlorpheniramine | Clonazepam | Cyanocobalamin, Vitamin B12 | Dicyclomine | Lidocaine | Meclizine | Omeprazole | Vitamin E | Zolpidem | Provigil® | Acetaminophen; Hydrocodone | Tamsulosin | Melatonin | Calcium 600mg Plus D)
• heart failure (Amitriptyline | Vitamin E)
• hemolysis (Vitamin C | Acetaminophen; Hydrocodone)
• hemolytic anemia (Vitamin C | Omeprazole | Acetaminophen; Hydrocodone)
• hemorrhoids (Mylanta®)
• hepatic encephalopathy (Omeprazole)
• hepatic failure (Omeprazole)
• hepatic necrosis (Omeprazole | Acetaminophen; Hydrocodone)
• hepatitis (Omeprazole | Provigil® | Melatonin)
• hiccups (Zolpidem)
• hostility (Amitriptyline | Clonazepam)
• hyperbilirubinemia (Omeprazole)
• hypercalcemia (Mylanta® | Calcium 600mg Plus D)
• hypercalciuria (Calcium 600mg Plus D)
• hypercholesterolemia (Fish Oil, Omega-3 Fatty Acids | Calcium 600mg Plus D)
• hyperglycemia (Provigil®)
• hypermagnesemia (Mylanta®)
• hyperoxaluria (Vitamin C)
• hyperphosphatemia (Calcium 600mg Plus D)
• hyperreflexia (Clonazepam)
• hypersalivation (Clonazepam)
• hypertension (Amitriptyline | Chlorpheniramine | Lidocaine | Provigil® | Calcium 600mg Plus D)
• hyperthermia (Calcium 600mg Plus D)
• hypertriglyceridemia (WelChol®)
• hypervitaminosis A (Fish Oil, Omega-3 Fatty Acids)
• hypervitaminosis D (Fish Oil, Omega-3 Fatty Acids | Calcium 600mg Plus D)
• hypoglycemia (WelChol®)
• hypokalemia (Cyanocobalamin, Vitamin B12)
• hypophosphatemia (Mylanta® | Calcium 600mg Plus D)
• hypoprothrombinemia (Acetaminophen; Hydrocodone)
• hypotension (Chlorpheniramine | Clonazepam | Lidocaine | Meclizine | Provigil® | Acetaminophen; Hydrocodone | Tamsulosin | Mylanta®)
• ileus (Amitriptyline)
• impaired cognition (Chlorpheniramine | Meclizine | Mylanta®)
• impotence (erectile dysfunction) (Amitriptyline | Dicyclomine | Tamsulosin)
• infection (Cyanocobalamin, Vitamin B12 | Tamsulosin | Fish Oil, Omega-3 Fatty Acids)
• infertility (Melatonin)
• injection site reaction (Lidocaine)
• insomnia (Amitriptyline | Chlorpheniramine | Dicyclomine | Meclizine | Zolpidem | Provigil® | Tamsulosin)
• interstitial nephritis (Omeprazole | Acetaminophen; Hydrocodone)
• irritability (Amitriptyline | Provigil® | Calcium 600mg Plus D)
• jaundice (Amitriptyline | Omeprazole | Acetaminophen; Hydrocodone)
• laryngospasm (Lidocaine)
• lethargy (Zolpidem | Melatonin)
• leukocytosis (Omeprazole)
• leukopenia (Omeprazole | Provigil®)
• libido decrease (Amitriptyline | Clonazepam | Tamsulosin)
• maculopapular rash (Acetaminophen; Hydrocodone)
• malaise (Zolpidem | Mylanta®)
• mania (Amitriptyline | Clonazepam | Provigil®)
• metabolic acidosis (Calcium 600mg Plus D)
• metabolic alkalosis (Calcium 600mg Plus D)

• metallic taste (Calcium 600mg Plus D)
• methemoglobinemia (Lidocaine | Acetaminophen; Hydrocodone)
• milk-alkali syndrome (Calcium 600mg Plus D)
• miosis (Acetaminophen; Hydrocodone)
• musculoskeletal pain (Calcium 600mg Plus D)
• myalgia (Zolpidem | WelChol® | Calcium 600mg Plus D)
• mydriasis (Amitriptyline | Dicyclomine | Meclizine)
• myocardial infarction (Amitriptyline)
• myocarditis (Provigil®)
• nausea/vomiting (Amitriptyline | Vitamin C | Chlorpheniramine | Clonazepam | Cyanocobalamin, Vitamin B12 | Dicyclomine | Lidocaine | Vitamin E | Zolpidem | Provigil® | Acetaminophen; Hydrocodone | Tamsulosin | Mylanta® | Fish Oil, Omega-3 Fatty Acids | Calcium 600mg Plus D)
• neonatal abstinence syndrome (Acetaminophen; Hydrocodone)
• neonatal depression (Lidocaine)
• nephrolithiasis (Vitamin C | Mylanta®)
• neuroleptic malignant syndrome (Amitriptyline)
• neuropathic pain (Lidocaine)
• neutropenia (Omeprazole | Acetaminophen; Hydrocodone)
• nightmares (Clonazepam | Zolpidem | Melatonin)
• nocturia (Calcium 600mg Plus D)
• ocular hypertension (Amitriptyline)
• ocular irritation (Lidocaine)
• oral ulceration (Provigil®)
• orthostatic hypotension (Amitriptyline | Acetaminophen; Hydrocodone | Tamsulosin)
• osteomalacia (Mylanta®)
• osteoporosis (Mylanta®)
• palpitations (Amitriptyline | Chlorpheniramine | Lidocaine | Meclizine | Zolpidem | Acetaminophen; Hydrocodone)
• pancreatitis (Omeprazole)
• pancytopenia (Omeprazole | Acetaminophen; Hydrocodone)
• paresthesias (Cyanocobalamin, Vitamin B12 | Lidocaine | Provigil®)
• pernicious anemia (Omeprazole)
• petechiae (Lidocaine | Omeprazole)
• pharyngitis (Zolpidem | Provigil® | Tamsulosin | WelChol®)
• photophobia (Dicyclomine | Calcium 600mg Plus D)
• photosensitivity (Amitriptyline | Omeprazole)
• physiological dependence (Clonazepam | Acetaminophen; Hydrocodone)
• polycythemia (Cyanocobalamin, Vitamin B12)
• polydipsia (Provigil® | Calcium 600mg Plus D)
• polyuria (Calcium 600mg Plus D)
• PR prolongation (Amitriptyline)
• priapism (Tamsulosin)
• prolonged bleeding time (Fish Oil, Omega-3 Fatty Acids)
• proteinuria (Provigil®)
• pruritus (Amitriptyline | Cyanocobalamin, Vitamin B12 | Lidocaine | Omeprazole | Provigil® | Acetaminophen; Hydrocodone | Tamsulosin | Melatonin)
• pseudoparkinsonism (Amitriptyline)
• psychological dependence (Clonazepam)
• psychosis (Chlorpheniramine | Meclizine | Melatonin)
• pulmonary edema (Cyanocobalamin, Vitamin B12)
• purpura (Omeprazole | Acetaminophen; Hydrocodone)
• QT prolongation (Amitriptyline)
• rash (unspecified) (Clonazepam | Colace® | Omeprazole | Zolpidem | Provigil® | Acetaminophen; Hydrocodone | Tamsulosin | Fish Oil, Omega-3 Fatty Acids)
• renal failure (unspecified) (Omeprazole | Acetaminophen; Hydrocodone | Calcium 600mg Plus D)
• renal papillary necrosis (Acetaminophen; Hydrocodone)
• renal tubular necrosis (Acetaminophen; Hydrocodone)
• renal tubular obstruction (Vitamin C)
• respiratory depression (Lidocaine | Zolpidem | Acetaminophen; Hydrocodone)
• restlessness (Chlorpheniramine | Clonazepam | Lidocaine | Meclizine | Acetaminophen; Hydrocodone)
• rhinitis (Cyanocobalamin, Vitamin B12 | Provigil® | Tamsulosin)
• seizures (Amitriptyline | Chlorpheniramine | Lidocaine | Meclizine)
• serotonin syndrome (Amitriptyline)

• SIADH (Amitriptyline)
• sickle-cell crisis (Vitamin C)
• sinus tachycardia (Chlorpheniramine | Dicyclomine | Meclizine | Provigil® | Melatonin)
• sinusitis (Zolpidem | Tamsulosin)
• skin irritation (Lidocaine | Vitamin E)
• sleep-related behaviors (Zolpidem)
• somnambulism (Zolpidem)
• spermatogenesis inhibition (Melatonin)
• Stevens-Johnson syndrome (Omeprazole | Provigil®)
• stomatitis (Lidocaine | Omeprazole)
• stroke (Amitriptyline)
• suicidal ideation (Amitriptyline | Provigil®)
• syncope (Clonazepam | Provigil® | Acetaminophen; Hydrocodone | Tamsulosin)
• tardive dyskinesia (Meclizine)
• teratogenesis (Clonazepam)
• testicular swelling (Amitriptyline)
• throat irritation (Colace®)
• thrombocytopenia (Chlorpheniramine | Omeprazole | Provigil® | Acetaminophen; Hydrocodone)
• thrombocytosis (Cyanocobalamin, Vitamin B12 | Acetaminophen; Hydrocodone)
• tinnitus (Lidocaine | Calcium 600mg Plus D)
• tolerance (Clonazepam | Acetaminophen; Hydrocodone)
• torsade de pointes (Amitriptyline)
• toxic epidermal necrolysis (Omeprazole | Provigil® | Acetaminophen; Hydrocodone)
• tremor (Amitriptyline | Clonazepam | Lidocaine | Meclizine | Provigil®)
• urinary incontinence (Lidocaine)
• urinary retention (Amitriptyline | Chlorpheniramine | Dicyclomine | Lidocaine | Meclizine | Provigil®)
• urticaria (Amitriptyline | Clonazepam | Dicyclomine | Lidocaine | Omeprazole | Acetaminophen; Hydrocodone | Tamsulosin)
• vasculitis (Amitriptyline)
• ventricular tachycardia (Amitriptyline)
• vertigo (Clonazepam | Zolpidem | Tamsulosin | Calcium 600mg Plus D)
• visual impairment (Lidocaine | Zolpidem | Provigil®)
• vitamin B_{12} deficiency (Omeprazole)
• weakness (Chlorpheniramine | Dicyclomine | Meclizine | Vitamin E | Mylanta® | Calcium 600mg Plus D)
• weight gain (Amitriptyline | Fish Oil, Omega-3 Fatty Acids)
• weight loss (Calcium 600mg Plus D)
• withdrawal (Amitriptyline | Clonazepam | Zolpidem | Provigil® | Acetaminophen; Hydrocodone)
• xerophthalmia (Chlorpheniramine | Meclizine)
• xerosis (Provigil®)
• xerostomia (Amitriptyline | Chlorpheniramine | Dicyclomine | Meclizine | Zolpidem | Provigil® | Calcium 600mg Plus D)

Precautions

Precaution: Acetaminophen; Hydrocodone in constipation
Due to the effects of opiate agonists on the gastrointestinal tract, acetaminophen-hydrocodone should be used cautiously in patients with GI disease including GI obstruction or ileus, ulcerative colitis, or pre-existing constipation. Opiate agonists may obscure the diagnosis or clinical course in patients with acute abdominal conditions. Hydrocodone is contraindicated in patients who have or are suspected of having *paralytic ileus*. Patients with acute ulcerative colitis or other inflammatory bowel disease may be more sensitive to the constipating effects of opiate agonists. Although opiate agonists are contraindicated for use in patients with *diarrhea secondary to poisoning or infectious diarrhea*, antimotility agents have been used successfully in these patients. If possible, opiate agonists should not be given until the toxic substance has been eliminated.

Precaution: Acetaminophen; Hydrocodone in head trauma
Patients with head trauma or with increased intracranial pressure should be given acetaminophen-hydrocodone with extreme caution, because these drugs can make it difficult to evaluate neurologic parameters. Hypoventilation due to the oxycodone component can produce cerebral hypoxia and raise CSF pressure, exaggerating the injury.

Precaution: Acetaminophen; Hydrocodone in renal impairment
Acetaminophen-hydrocodone should be used cautiously in patients with renal impairment or renal failure; dosage adjustments may be required. Hydrocodone can cause urinary retention and oliguria, due to increasing the tension of the detrusor muscle. Patients more prone to these effects include those with prostatic hypertrophy, urethral stricture, bladder obstruction or pelvic tumors. In addition,

hydrocodone may accumulate in these patients leading to a prolonged duration of action and potential increase in side effects. Chronic acetaminophen administration should be avoided in patients with underlying renal disease; however it may be used for episodic pain.

Precaution: Amitriptyline in gastroesophageal reflux disease (GERD)
The anticholinergic effects of tricyclic antidepressants contraindicate their use in patients with decreased GI motility. Tricyclic antidepressants can induce or exacerbate hiatal hernia, and can cause paralytic *ileus* or constipation. Patients who have increased intraocular pressure or closed-angle glaucoma, benign prostatic hypertrophy, GI disease, gastroesophageal reflux disease (GERD), or urinary retention should be treated with caution because of the anticholinergic activity of tricyclic antidepressants. The anticholinergic effects of amitriptyline may be significant and are additive with other anticholinergic medications. Anticholinergic effects appear most frequently and cause the greatest morbidity in geriatric patients.

Precaution: Calcium 600mg Plus D in constipation
Calcium; vitamin D should be used cautiously in patients with peptic ulcer disease, GI bleeding, GI obstruction or ileus, constipation, or decreased gastric motility. Administration of calcium can cause gastric hypersecretion and acid rebound. Use with caution in patients with hepatic disease, gallbladder disease, biliary tract disease, or other GI disease including malabsorption syndrome. Higher doses of vitamin D may be needed to compensate for reductions in hepatic hydroxylation and decreases in intestinal absorption due to a lack of adequate bile production. Active vitamin D analogs may be preferred in such cases.

Precaution: Clonazepam in depression
Occasionally, pre-existing depression may emerge or worsen with the use of benzodiazepines. Clonazepam should be administered cautiously and prescribed in the smallest possible amount to patients with suicidal ideation or a history of suicide attempt. Clonazepam should be used cautiously in patients with bipolar disorder because mania and hypomania have been reported in conjunction with the use of benzodiazepines in depressive disorders.

Precaution: Clonazepam in renal impairment
Clonazepam should be administered cautiously to patients with renal impairment or renal failure; in general, initial dose selection should be in the lower range and dosage titration should proceed cautiously. Assess renal function during prolonged therapy and adjust dosage as clinically indicated.

Precaution: Clonazepam in depression
Occasionally, pre-existing depression may emerge or worsen with the use of benzodiazepines. Clonazepam should be administered cautiously and prescribed in the smallest possible amount to patients with suicidal ideation or a history of suicide attempt. Clonazepam should be used cautiously in patients with bipolar disorder because mania and hypomania have been reported in conjunction with the use of benzodiazepines in depressive disorders.

Precaution: Clonazepam in renal impairment
Clonazepam should be administered cautiously to patients with renal impairment or renal failure; in general, initial dose selection should be in the lower range and dosage titration should proceed cautiously. Assess renal function during prolonged therapy and adjust dosage as clinically indicated.

Precaution: Dicyclomine in gastroesophageal reflux disease (GERD)
Dicyclomine should not be used in severe *ulcerative colitis, reflux esophagitis* or if there is *GI obstruction,* Dicyclomine exerts its effects on the smooth muscle of the GI tract and may exacerbate ulcerative colitis, toxic megacolon, and intestinal atony. Large doses of dicyclomine can suppress intestinal motility to such an extent that a paralytic ileus is produced. Dicyclomine should be used with caution in these conditions. Dicyclomine is contraindicated by the manufacturer in patients with *reflux esophagitis* and should be used with caution in patients gastroesophageal reflux disease (GERD) or hiatal hernia. Antimuscarinics decrease gastric motility and relax the lower esophageal sphincter. These effects promote gastric retention and aggravate reflux in these patients.

Precaution: Fish Oil, Omega-3 Fatty Acids in hypercholesterolemia
Because fish oil, omega-3 fatty acids may increase LDL or total serum cholesterol, they should be used cautiously in patients with hypercholesterolemia or mixed dyslipidemias. As with any lipid-regulating product, LDL-C levels should be monitored periodically. Additionally, clinicians should be aware that some fish oil supplements increase the daily calorie intake and hence may induce weight gain, which may be detrimental to some patients with cardiovascular risk factors, like obesity.

Precaution: Fish Oil, Omega-3 Fatty Acids in migraine
Limited data are available on use of fish oil, omega-3 fatty acid supplements in a variety of health conditions, including asthma (or other pulmonary disease), cardiac disease (including atherosclerosis, hypertension, myocardial infarction), diabetes mellitus, inflammatory bowel disease, migraine, psychiatric illness (like bipolar disorder or schizophrenia) various types of nephropathy (renal disease), rheumatoid arthritis, systemic lupus erythematosus (SLE), and many others. Fish oil products are not intended to diagnose, treat, cure, or prevent any disease. Safety and efficacy for many of these conditions have not been established. Consumers should be

encouraged to consult their health care provider prior to the administration of fish oil capsules for the adjunctive treatment of these conditions. Other prescribed therapies should be continued as directed by their health care provider.

Precaution: Melatonin in depression
Melatonin should be used with caution in patients who have pre-existence of any neurological disease. Melatonin acts on the central nervous system and has sedative effects. It is unknown if melatonin could potentially worsen depressive conditions. Caution should be used when patients are being treated for other psychiatric diseases (e.g., depression, dementia) by a health care professional, particularly if they are on prescription medication for such problems. Melatonin is not recommended for people who are on prescribed neurologic, psychotropic, or hypnotic medications without the supervision of a qualified health care professional. Little is known about whether melatonin could interfere with prescribed therapies (see Drug Interactions). The decision to self-treat insomnia with melatonin should be weighed against the possibility that the problem could coexist with another medical condition (e.g., depression, neurologic disorders). Since melatonin may affect epileptic activity, patients with a seizure disorder should not use this product except on the advice of a health care professional.

Precaution: Melatonin in insomnia
The American Sleep Disorder Association considers melatonin an experimental drug for insomnia and does not recommend its use without medical supervision. Due to a lack of scientific data and an unknown potential for side effects, melatonin is not recommended for use in neonates, infants, or children without the approval and observation of a health care professional. Caution is also warranted in the elderly due to limited study of melatonin in this patient population at this time. If an adult patient decides to self-treat insomnia with melatonin, it is recommended that use not exceed 2 weeks without consultation of a health care professional.

Precaution: Mylanta® in constipation
Patients with constipation, fecal impaction, GI obstruction, ileus, hemorrhoids, or undiagnosed rectal or GI bleeding should receive aluminum hydroxide; magnesium hydroxide; simethicone with caution; it is possible that these conditions could be aggravated or the patient could develop sepsis, peritonitis, or ischemic bowel.

Precaution: Mylanta® in renal impairment
Aluminum hydroxide; magnesium hydroxide; simethicone should be used cautiously in neonates, elderly patients, and in patients with renal impairment or renal disease because of the increased risk of developing hypermagnesemia and magnesium toxicity and aluminum toxicity, especially dialysis dementia in dialysis patients with long term use of aluminum containing antacids. Do not use in patients with *renal failure* unless they are being closely monitored for signs and symptoms of toxicity and their serum magnesium levels are being closely monitored. Use aluminum hydroxide; magnesium hydroxide; simethicone products with caution in patients on sodium restricted diets and in those with congestive heart failure, renal disease, edema, or or cirrhosis with ascites (severe hepatic disease) as the total daily dose may exceed 5 mEq (115 mg) of sodium.

Precaution: Provigil® in depression
Various adverse psychiatric effects have occurred during administration of modafinil including mania, hallucinations, depression, and suicidal ideation. Caution should be exercised when administering modafinil to patients with a known history of psychosis (e.g., schizophrenia), depression, suicidal ideation, or bipolar disorder. Such patients may need behavioral assessments or frequent clinical observation.

Precaution: Provigil® in renal impairment
Patients with renal failure (CrCl <= 20 ml/min) have reduced clearance of the inactive metabolite, modafinil acid. It is unknown if the accumulation of this metabolite would have clinical consequences. There is little information regarding the safety of modafinil in patients with severe renal impairment; caution is warranted.

Precaution: Tamsulosin in renal impairment
Tamsulosin should be used cautiously in patients with orthostatic hypotension, vertigo, or syncope. The signs and symptoms of orthostasis (postural hypotension, dizziness, and vertigo) were more frequently reported in tamsulosin-treated patients than those receiving placebo. As with other alpha-adrenergic blocking agents, there is a potential risk of syncope and patients should be cautioned to avoid situations where injury could result should syncope occur. Patients with renal impairment, renal failure or other renal disease and the elderly should also be monitored carefully for exaggerated hypotensive effects (e.g., first dose effect).

Precaution: Therapeutic Multivitamin Tablets in renal impairment
Parenteral pyridoxine solutions contain varying concentrations of aluminum. Patients with renal impairment, especially as seen with neonatal prematurity, are at risk of aluminum accumulation which may result in toxicity. Limit intravenous pyridoxine therapy and consider the cumulative aluminum content among all therapies under administration in patients with renal impairment. It is noted that 4-5 mcg/kg/day of IV aluminum leads to accumulation at concentrations associated with CNS and bone toxicity; further, aluminum tissue loading is possible at lesser, but undefined, daily administration rates.[9771] Aluminum concentration in parenteral solutions can be obtained by direct manufacturer inquiry.

Precaution: Therapeutic Multivitamin Tablets in renal impairment

Use niacin with caution in patients with renal disease (renal failure or severe renal impairment) since niacin metabolites are excreted through the kidneys. It appears that no special precautions are needed when administering niacin to meet the recommended nutritional daily allowance (RDA). Use caution when administering higher dosages.

Precaution: Vitamin B-Complex 100 in renal impairment
Parenteral pyridoxine solutions contain varying concentrations of aluminum. Patients with renal impairment, especially as seen with neonatal prematurity, are at risk of aluminum accumulation which may result in toxicity. Limit intravenous pyridoxine therapy and consider the cumulative aluminum content among all therapies under administration in patients with renal impairment. It is noted that 4-5 mcg/kg/day of IV aluminum leads to accumulation at concentrations associated with CNS and bone toxicity; further, aluminum tissue loading is possible at lesser, but undefined, daily administration rates.[9771] Aluminum concentration in parenteral solutions can be obtained by direct manufacturer inquiry.

Precaution: Vitamin B-Complex 100 in renal impairment
Use niacin with caution in patients with renal disease (renal failure or severe renal impairment) since niacin metabolites are excreted through the kidneys. It appears that no special precautions are needed when administering niacin to meet the recommended nutritional daily allowance (RDA). Use caution when administering higher dosages.

Precaution: WelChol® in constipation
Colesevelam is contraindicated in patients with *GI obstruction* because the drug causes constipation. Patients with preexisting constipation are at increased risk of developing fecal impaction. Hemorrhoids may be aggravated if constipation develops while taking colesevelam. Because of the tablet size, colesevelam can cause dysphagia or esophageal obstruction. Use colesevelam with caution in patients with dysphagia, swallowing disorders, severe gastrointestinal motility disorders (e.g., *ileus*), gastroparesis, or major gastrointestinal tract surgery.

Precaution: WelChol® in hypertriglyceridemia
In general, most patients with triglyceride levels greater than 300 mg/dl were excluded from clinical trials of colesevelam. Bile acid sequestrants can increase serum triglyceride concentrations. Administer colesevelam with caution in patients with hypertriglyceridemia; in trials in patients with hyperlipidemia, colesevelam increased serum triglyceride concentrations by approximately 5%. While the manufacturer cautions the use of colesevelam in patients with triglycerides > 300 mg/dl and contraindicates its use in patients with *triglycerides > 500 mg/dl*, the NCEP guidelines indicate that bile acid resins are absolutely contraindicated in patients with a serum triglyceride concentration > 400 mg/dl and are relatively contraindicated in patients with a serum triglyceride concentration > 200 mg/dl.[2653] The NCEP also indicate that bile acid resins are contraindicated in patients with dysbetalipoproteinemia.[2653] In patients with diabetes mellitus, colesevelam in combination with sulfonylureas or insulin may increase triglyceride concentrations even greater than patients without diabetes (see Interactions). Additionally, the effects of colesevelam on LDL cholesterol in patients with diabetes may be attenuated because of the increase in triglycerides and a smaller decrease in non-HDL cholesterol as compared to the reduction in LDL cholesterol. Lipid parameters should be monitored prior to starting colesevelam and periodically thereafter. Discontinue colesevelam if triglyceride concentrations increase to > 500 mg/dl or if the patient develops hypertriglyceridemia-induced pancreatitis.

Precaution: Zolpidem in depression
Zolpidem, like all CNS-depressants, should be used cautiously in patients with symptoms of depression. These patients may have suicidal ideation tendencies and may be more likely to intentionally overdose on medications. In addition, worsening of depression may occur during zolpidem administration. Suicidal thoughts and actions, including completed suicides, have been reported in association with the use of sedative/hypnotics. Zolpidem should be prescribed in the smallest quantity consistent with good patient management to reduce the risk of overdose.

Allergy Alerts

No warnings noted

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