Substance Abuse Treatment
For Persons With Co-Occurring Disorders

A Treatment Improvement Protocol

TIP 42

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment
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CO-OCCURRING DISORDERS

Appendix F: Common Medications for Disorders

This appendix contains the Pharmacological Management section from TIP 9, *Assessment and Treatment of Clients With Coexisting Mental Illness and Alcohol and Other Drug Abuse* (Center for Substance Abuse Treatment 1994*a*, pp. 91–94). This section is followed by an adaptation of the text of *Psychotherapeutic Medications 2004: What Every Counselor Should Know*, a publication of the Mid-America Addiction Technology Transfer Center. Many of the terms are highly technical; however, to define them is beyond the scope of the TIP. The counselor can understand the fundamental information contained in each section without knowing the definition of every term. This appendix provides the counselor with a handy reference on various psychotropic medications and their use.

Pharmacologic Risk Factors

Addiction is not a fixed and rigid event. Like mental disorders, addiction is a dynamic process, with fluctuations in severity, rate of progression, and symptom manifestation and with differences in the speed of onset. Both disorders are greatly influenced by several factors, including genetic susceptibility, environment, and pharmacologic influences. Certain people have a high risk for these disorders (genetic risk); some situations can evoke or help to sustain these disorders (environmental risk); and some drugs are more likely than others to cause psychiatric or substance use disorder problems (pharmacologic risk).

Pharmacologic effects can be therapeutic or detrimental. Medication often produces both effects. Therapeutic pharmacologic effects include the indicated purposes and desired outcomes of taking prescribed medications, such as a decrease in the frequency and severity of episodes of depression produced by antidepressants.

Detrimental pharmacologic effects include unwanted side effects such as dry mouth or constipation resulting from antidepressant use. Side effects

perceived as noxious by clients may decrease their compliance with taking the medications as directed.

Some detrimental pharmacologic effects relate to abuse and addiction potential. For example, some medications may be stimulating, sedating, or euphorigenic and may promote physical dependence and tolerance. These effects can promote the use of medication for longer periods and at higher doses than prescribed.

Thus, prescribing medication involves striking a balance between therapeutic and detrimental pharmacologic effects. For instance, therapeutic antianxiety effects of the benzodiazepines are balanced against detrimental pharmacologic effects of sedation and physical dependency. Similarly, the desired therapeutic effect of abstinence from alcohol is balanced by the possibility of damage to the liver from prescribed disulfiram (Antabuse).

Side effects of prescription medications vary greatly and include detrimental pharmacologic effects that may promote abuse or addiction. With regard to clients with co-occurring disorders, special attention should be given to detrimental effects, in terms of (1) medication compliance, (2) abuse and addiction potential, (3) substance use disorder relapse, and (4) psychiatric disorder relapse (Ries 1993).

Psychoactive Potential

Not all psychiatric medications are psychoactive. The term *psychoactive* describes the ability of certain medications, drugs, and other substances to cause acute psychomotor effects and a relatively rapid change in mood or thought. Changes in mood include stimulation, sedation, and euphoria. Thought changes can include a disordering of thought such as delusions, hallucinations, and illusions. Behavioral changes can include an acceleration or retardation of motor activity. All drugs of abuse are by definition psychoactive.

In contrast, certain nonpsychoactive medications such as lithium (Eskalith) can, over time, normalize the abnormal mood and behavior of clients with bipolar disorder. Because these effects take several days or weeks to occur, and do not involve acute mood alteration, it is not accurate to describe these drugs as psychoactive, euphorigenic, or mood altering. Rather, they might be described as *mood regulators.* Similarly, some drugs, such as antipsychotic medications, cause normalization of thinking processes but do not cause acute mood alteration or euphoria.

However, some antidepressant and antipsychotic medications have pharmacologic side effects such as mild sedation or mild stimulation. Indeed, the side effects of these medications can be used clinically. Physicians can use a mildly sedating antidepressant medication for clients with depression and insomnia, or a mildly stimulating antipsychotic medication for clients with psychosis and hypersomnia or lethargy (Davis and Goldman 1992). While the side effects of these drugs include a mild effect on mood, they are not euphorigenic. Nevertheless, case reports of misuse of nonpsychoactive medications have been noted, and use should be monitored carefully in clients with co-occurring disorders.

While psychoactive drugs are generally considered to have high risk for abuse and addiction, mood-regulating drugs are not. A few other medications exert a mild psychoactive effect without having addiction potential. For example, the older antihistamines such as doxylamine (Unisom) exert mild sedative effects, but not euphoric effects.

Reinforcement Potential

Some drugs promote *reinforcement*, or the increased likelihood of repeated use. Reinforcement can occur by either the removal of negative symptoms or conditions or the amplification of positive symptoms or states. For example, self-medication that delays or prevents an unpleasant event (such as withdrawal) from occurring becomes reinforcing. Thus, using a benzodiazepine to avoid alcohol withdrawal can increase the likelihood of continued use. *Positive reinforcement* involves

strengthening the possibility that a certain behavior will be repeated through reward and satisfaction, as with drug-induced euphoria or drug-induced feelings of well-being. A classic example is the pleasure derived from moderate to high doses of opioids or stimulants. Drugs that are immediately reinforcing are more likely to lead to psychiatric or substance use problems.

Tolerance and Withdrawal Potential

Long-term or chronic use of certain medications can cause tolerance to the subjective and therapeutic effects and prompt dosage increases to recreate the desired effects. In addition, many drugs cause a well-defined withdrawal phenomenon after the cessation of chronic use. Clients' attempts to avoid withdrawal syndromes often lead them to additional drug use. Thus, drugs that promote tolerance and withdrawal generally have higher risks for abuse and addiction.

A Stepwise Treatment Model

As can be seen, there are pharmacologic as well as hereditary and environmental factors that influence the development of substance use disorders. All of these factors should be considered before prescribing medication, especially when the client is at high risk for developing a substance use disorder. High-risk clients include people with both psychiatric and substance use disorders, as well as clients with a psychiatric disorder and a family history of substance use disorders.

One aspect of this issue relates to the pharmacologic profile of certain medications that are used in the treatment of specific psychiatric disorders. For instance, many medications used to treat symptoms of depression and psychosis are not psychoactive or euphorigenic. However, many of the medications used to treat symptoms of anxiety, such as the benzodiazepines, are psychoactive, reinforcing, have potential for tolerance and withdrawal, and have an abuse potential, especially among people who are at high risk for substance use disorders. Other antianxiety medications, such as buspirone (BuSpar), are not psychoactive or reinforcing and have low abuse potential, even among people at high risk.

Thus, decisions about whether and when to prescribe medication to a high-risk client should include a risk-benefit analysis that considers the risk of medication abuse, the risk of undertreating a psychiatric problem, the type and severity of the psychiatric problem, the relationship between the psychiatric disorder and the substance use disorder for the individual client, and the therapeutic benefits of resolving the psychiatric and substance abuse problems.

For example, the early and aggressive medication of high-risk clients who have severe presentations of psychotic depression, mania, and schizophrenia is often necessary to prevent further psychiatric deterioration and possible death. For these clients, rapid and aggressive medication can shorten the length of the psychiatric episodes. In contrast, prescribing benzodiazepines to high-risk clients with similarly severe anxiety involves a substantial risk of promoting or exacerbating a substance use disorder. For these high-risk clients, the use of psychoactive medication should not be the first line of treatment. Rather, for some high-risk clients, treatment efforts should involve a stepwise treatment model that begins with conservative approaches and progressively becomes more aggressive if the treatment goals are not met (Landry et al. 1991*a*). For example, the stepwise treatment model for treating high-risk clients with anxiety disorders may involve three progressive levels of treatment: (1) nonpharmacologic approaches when possible; (2) nonpsychoactive medication when nonpharmacologic approaches are insufficient; and (3) psychoactive medications when other treatment approaches provide limited or no relief (Landry et al. 1991*a*).

Nonpharmacologic Approaches

Depending on the psychiatric disorders and personal variables, numerous nonpharmacologic approaches can help clients manage all or some aspects of their psychiatric disorders. Examples include psychotherapy, cognitive therapy, behavioral therapy, relaxation skills, meditation, biofeedback, acupuncture, hypnotherapy, self-help groups, support groups, exercise, and education.

Nonpsychoactive Pharmacotherapy

Some medications are not psychoactive and do not cause acute psychomotor effects or euphoria. Some medications do not cause psychoactive or psychomotor effects at therapeutic doses but may exert limited psychoactive effects at high doses (often not euphoria, but sometimes dysphoria).

For practical purposes, all of these medications can be described as nonpsychoactive, since the psychoactive effect is not prominent. Medications used in psychiatry that are not euphorigenic or significantly psychoactive include but are not limited to the azapirones (for example, buspirone), the amino acids, beta-blockers, antidepressants, monoamine oxidase inhibitors, antipsychotics, lithium, antihistamines, anticonvulsants, and anticholinergic medications.

Psychoactive Pharmacotherapy

Some medications can cause significant and acute alterations in psychomotor, emotional, and mental activity at therapeutic doses. At higher doses, and for some clients, some of these medications can also cause euphoric reactions. Medications that are potentially psychoactive include opioids, stimulants, benzodiazepines, barbiturates, and other sedative-hypnotics.

Stepwise Treatment Principles

One of the emphases of stepwise treatment is to encourage nondrug treatment strategies for each emerging symptom before medications are prescribed. Nondrug treatment strategies alone are inappropriate for acute and severe symptoms of schizophrenia and mood disorders, but nondrug strategies do have their place in the treatment of virtually any psychiatric problem and may provide partial or total relief of some symptoms related to severe psychiatric disorders. For example, relaxation therapy can minimize or eliminate somatic symptoms of anxiety that may accompany an agitated depression.

A second emphasis of stepwise treatment is to encourage the use of medications that have a low abuse potential. This conservative approach must be balanced against other therapeutic and safety considerations in acute and severe conditions, such as psychosis or mania. On the other hand, a conservative approach is not the same as undermedication of psychiatric problems. Undermedication often leads to psychiatric deterioration and may promote substance abuse relapse. There should be a balance between effective treatment and safety.

A third emphasis of stepwise treatment is to encourage the idea that different treatment approaches should be viewed as complementary, not competitive. For example, if psychotherapy or group therapy does not provide complete relief from a situational depression (such as prolonged grief), then antidepressants should be considered as an adjunct to the psychotherapy, but not as a substitute for psychotherapy.

In practice, treatment providers often use a combination of drug and nondrug strategies. This practice includes medication to treat the acute manifestations of the disorder while the individual learns long-term management strategies. For example, an individual may be prescribed nonpsychoactive buspirone to reduce anxiety symptoms while learning stress reduction techniques and attending group therapy.

These guidelines are broad, general, and more applicable to chronic than to acute psychiatric problems. Also, these guidelines have limited application to severe psychiatric problems.

Psychotherapeutic Medications 2004: What Every Counselor Should Know

Following is the text of Psychotherapeutic Medications 2004: What Every Counselor Should Know, a publication of the Mid-America Addiction Technology Transfer Center (MATTC), which was adapted for this TIP. This brochure is updated annually and is available via the MATTC Web site at www.mattc.org. The brochure addresses the following areas:

- Antipsychotics/Neuroleptics
- Antimanic Medications
- Antidepressant Medications
- Antianxiety Medications
- Stimulant Medications
- Narcotic and Opioid Analgesics
- Antiparkinsonian Medications
- Hypnotics
- Addiction Treatment Medications

For physicians desiring a more in-depth discussion regarding the challenges of treating specific population groups with substance use disorders (e.g., homeless, older adults, people with HIV/AIDS or hepatitis, pregnant or nursing women, etc.), which includes medication compliance, adverse drug interactions, and relapse with the use of potentially addictive medications, readers are referred to the current edition of the American Society of Addiction Medicine's (ASAM's) *Principles of Addiction Medicine*, Third Edition (ASAM 2003).

Tips For Communicating With Physicians About Clients and Medication

Send a written report

The goal is to get your concerns included in the client's medical record. When information is in a medical record, it is more likely to be acted on. Records of phone calls and letters are rarely placed in the chart (readers may go to www.mattc.org to download a sample form).

Make it look like a report—and be brief

Include date of report, client name, and Social Security Number. Most medical consultation reports are one page. Longer reports are less likely to be read. Include and prominently label sections:

- Presenting Problem
- Assessment
- Treatment and Progress
- Recommendations and Questions

Keep the tone neutral

Provide details about the client's use or abuse of prescription medications. Avoid making direct recommendations about prescribed medications. Allow the physician to draw his or her own conclusions. This will enhance your alliance with the physician and makes it more likely he or she will act on your input.

Talking with clients about their medication

Untreated psychiatric problems are a common cause for treatment failure in substance abuse treatment programs. Supporting clients with mental illness in continuing to take their psychiatric medications can significantly improve substance abuse treatment outcomes.

Getting started

Take 5–10 minutes every few sessions to go over these topics with your clients:

- Remind them that taking care of their mental health will help prevent relapse.
- Ask how their psychiatric medication is helpful.
- Acknowledge that taking a pill every day is a hassle.
- Acknowledge that everybody on medication misses taking it sometimes.
- Do not ask if they have missed any doses, rather ask, "How many doses have you missed?"
- Ask if they felt or acted different on days when they missed their medication.
- Was missing the medication related to any substance use relapse?
- Without judgment, ask "Why did you miss the medication? Did you forget, or did you choose not to take it at that time?"

For clients who forgot, ask them to consider the following strategies

- Keep medication where it cannot be missed: with the TV remote control, near the refrigerator, or taped to the handle of a toothbrush. Everyone has two or three things they do everyday without fail. Put the medication in a place where it cannot be avoided when doing that activity, but always away from children.
- Suggest they use an alarm clock set for the time of day they should take their medication. Reset the alarm as needed.

For clients who admit to choosing not to take their medication

- Acknowledge they have a right to choose NOT to use any medication.
- Stress that they owe it to themselves to make sure their decision is well thought out. It is an important decision about their personal health.
- Ask their reason for choosing not to take the medication.
- Don't accept "I just don't like pills." Tell them you're sure they wouldn't make such an important decision without having a reason.
- Offer as examples reasons others might choose not to take medication. For instance, they:
  1. Don't believe they ever needed it; never were mentally ill
  2. Don't believe they need it anymore; cured
  3. Don't like the side effects
  4. Fear the medication will harm them
  5. Struggle with objections or ridicule of friends and family members
  6. Feel taking medication means they are not personally in control

Transition to topics other than psychiatric medications

Ask what supports or techniques they use to assist with emotions and behaviors when they choose not to take the medication.

General Approach

The approach when talking with clients about psychiatric medication is exactly the same as when talking about their substance abuse decisions.

- Explore the triggers or cues that led to the undesired behavior (either taking drugs of abuse or not taking prescribed psychiatric medications).
- Review why the undesired behavior seemed like a good idea at the time.
- Review the actual outcome resulting from their choice.
- Ask if their choice got them what they were seeking.
- Strategize with clients what they could do differently in the future.

Note to Practitioners

Name brand medications have a limited patent. When the patent expires the medication may be made as a generic. The generic name of a medication is the ***actual name of the drug and never changes***. Do not be surprised to see a generic drug made by many different manufacturers.

Manufacturers can make many forms of a single drug with only slight variations. Several drugs have been made in an extended release form (CR, controlled release; ER or XR, extended release; and SR, sustained release). Extended release drugs act over a long period of time and do not have to be dosed as often.

A new formulation for drugs is a quick, orally dissolving tablet that can be taken without water. Two patent drugs that have been formulated as quick dissolving tablets are Remeron SolTab and Zyprexa Zydis.

Antipsychotics/Neuroleptics

Generic and brand names

Generic	Brand
Traditional antipsychotics	
chlorpromazine	Thorazine, Largactil
fluphenazine	Prolixin+, Permitil, Anatensol
haloperidol	Haldol
loxapine	Loxitane, Daxolin
mesoridazine	Serentil
molindone	Moban, Lidone
perphenazine	Trilafon, Etrafon
pimozide	Orap
thioridazine	Mellaril
thiothixene	Navane
trifluoperazine	Stelazine
Novel or atypical antipsychotics	
aripiprazole	Abilify
clozapine	Clozaril+
olanzapine	Zyprexa, Zyprexa Zydis
quetiapine	Seroquel*
risperidone	Risperdal
risperidone long-acting injection	Risperdal Consta
ziprasidone	Geodon

+ Can cause a serious side effect in the blood system; must have regular blood tests to monitor potential side effects. Approximately 1 to 2 percent of patients who take clozapine develop a condition called *agranulocytosis,* in which their white blood cell count drops drastically. As a result, the patient is at high risk for infections due to a compromised immune system, and this could be fatal. However, most patients can be treated successfully by stopping clozapine treatment. To maintain safety, white blood cell count must be checked each week for 6 months and every 2 weeks thereafter. The results must be sent to the patient's pharmacy before the patient can pick up the next supply of medication.

* Seroquel is often used for insomnia.

Purpose

Antipsychotics are most typically used for persons who experience psychotic symptoms as a result of having some form of schizophrenia, severe depression, or bipolar illness. They may

be used to treat brief psychotic episodes caused by drugs of abuse or other conditions. Psychotic symptoms may include being out of touch with reality, "hearing voices," and having false perceptions (e.g., thinking you are a famous person, thinking someone is out to hurt you). These medications can be effective in either minimizing or stopping the appearance of these symptoms altogether. In some cases, these medications can shorten the course of the illness or prevent it from happening again.

The newest antipsychotics—risperdone, olanzapine, quetiapine, ziprasidone, and aripiprazole—are showing positive effects across a range of disorders. These medications also seem to have a mood-stabilizing effect and are used for bipolar disorder, as well as being added to antidepressants for severe depressions. Some have been shown to be effective at relieving anxiety in low doses, but this use is not approved by the Food and Drug Administration (FDA).

Usual dose, frequency, and side effects

All drugs have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. How much medicine and how often to take it are specified on the prescription bottle. Many medications are taken once a day, some at bedtime to take advantage of the drowsiness side effect of some antipsychotic medications. Some medications are taken in pill form or liquid form. Other medications are given by injection once or twice per month to ensure that the medication is taken reliably. It is important to take medications on schedule. It is important that patients talk to their doctor so that they know about side effects of medications and what they need to do to monitor their health.

Prolixen, like other medications marked with +, can very rarely cause serious side effects in the blood system called blood dyscrasias (abnormalities or irregularities in the blood cells). Persons taking any medications marked with a + may need to have blood tests on a regular basis to check for these blood disorders. Novel or atypical antipsychotics like Clozaril, Risperdal, Seroquel, and Zyprexa are different from traditional antipsychotics. Novel or atypical antipsychotic medications are more powerful with treatment-resistant schizophrenia but may also be used with severe depression or other psychiatric illness. Because the atypical antipsychotics work in a slightly different way than traditional antipsychotics they are less likely to produce serious side effects, such as tardive dyskinesia or neuroleptic malignant syndrome (NMS). The most common mild side effects are either sedation or agitation, especially when starting the medications. The most worrisome side effects are weight gain and elevated blood sugar and lipids. There is also some evidence that the use of atypical neuroleptics may lead to the development of diabetes mellitus (Sernyak et al. 2002). These issues can be medically worrisome as well as lead to medication noncompliance. Since both the effectiveness and side effect profiles vary across both medications and patients, matching the right medication to the right patient is the key. The older antipsychotics are cheap, and the newer ones expensive. People taking Clozaril must have a blood test every two weeks in order to monitor for a potential side effect, agranulocytosis, which is a serious blood disorder. In general, the newer antipsychotics, when taken in proper dosage, have fewer clinical side effects and a broader treatment response than traditional antipsychotics.

Tardive dyskinesia

- Involuntary movements of the tongue or mouth
- Jerky, purposeless movements of legs, arms, or entire body
- Usually seen with long-term treatment using traditional antipsychotic medications, sometimes seen with atypical antipsychotic medications
- More often seen in women
- Risk increases with age and length of time on the medication

Neuroleptic malignant syndrome

- Blood pressure up and down
- Dazed and confused
- Difficulty breathing
- Muscle stiffness
- Rapid heart rate
- Sweating and shakiness
- Temperature above normal

Diabetes mellitus

- Associated with atypical neuroleptics
- Excessive thirst
- Headaches
- Frequent urination
- Cuts/blemishes heal slowly
- Fatigue

Other

- Blurred vision
- Changes in sexual functioning
- Constipation
- Diminished enthusiasm
- Dizziness
- Drowsiness
- Dry mouth
- Lowered blood pressure
- Muscle rigidity
- Nasal congestion
- Restlessness
- Sensitivity to bright light
- Slowed heart rate
- Slurred speech
- Upset stomach
- Weight gain

Note: Any side effects that bother a person need to be reported to the physician and discussed with him or her.

Anticholinergic/antiparkinsonian medications like Cogentin and Artane may be prescribed in order to control movement difficulties associated with the use of antipsychotic medications.

Abilify is a new antipsychotic released in December 2002. The medication acts as both an enhancer and an inhibitor of dopamine production by "sensing" when there is too little or too much dopamine in the brain. Useful in the treatment of schizophrenia and other psychotic disorders, side effects include headache, anxiety, and insomnia. Risperdal Consta, approved in November 2003, is an injection of microencapsulated medication that releases into the body at a constant level. An injection is usually given every two weeks. Side effects are similar to those for Risperdal.

Emergency conditions

Contact a physician and/or seek emergency medical assistance if the person experiences involuntary muscle movements, painful muscle spasms, difficulty in urinating, eye pain, skin rash, or the symptoms noted under neuroleptic malignant syndrome and tardive dyskinesia.

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter preparations, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).
- People taking antipsychotic drugs should not increase their dose unless this has been *checked with their physician and a change is ordered.*

Special considerations for pregnant women

For women of child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting this to their clients.

Antimanic Medications

Generic and brand names

Generic	Brand
Lithium products	
lithium carbonate*	Eskalith, Eskalith CR, Lithane, Lithobid, Lithonate, Lithotabs
lithium citrate*	Cibalith
Anticonvulsant products	
Carbamazepine*	Tegretol
divalproex sodium*	Depakote, Depakote Sprinkle, Depakote ER
gabapentin	Neurontin
lamotrigine	Lamictal
levetiracetam	Keppra+
oxcarbazepine	Trileptal
tiagabine hydrochloride	Gabitril
topiramate	Topamax, Topamax Sprinkle
valproate sodium*	Depakene, Depacon
valproic acid*	Depakene
Other	
olanzapine	Zyprexa, Zyprexa Zydis (see antipsychotics for side effects)
quetiapine fumarate	Seroquel
risperidone	Risperdal
ziprasidone	Geodon

*Needs blood level monitoring

+ Keppra is noted for causing mood changes, primarily depression and anger in some people. This may limit its use as a mood stabilizer.

It is likely that all of the newer atypical antipsychotics mentioned above will soon be FDA approved for mania.

Purpose

Antimanic drugs are used to control the mood swings of bipolar (manic–depressive) illness, leveling mood swings so that the client operates in a moderate mood zone. These medications even out mood swings, which can decrease some of the suicidal and other self-harm behaviors seen with bipolar disorders. Additionally, appropriate treatment with antimanic drugs can reduce a patient's violent outbursts toward others or property. Bipolar illness is characterized by cycling mood changes from severe highs (mania) to severe lows (depression). Cycles of mood may be predominantly manic or depressive with normal moods between cycles. The "highs" and "lows" vary in intensity, frequency, and severity. Mania, if left untreated, may worsen into a psychotic state. The depression may result in thoughts of suicide. Bipolar cycles that occur more often than three times a year are considered "rapid cycling," a condition often found in those people with higher rates of substance abuse. Antimanic medications even out the mood swings so that the person operates in a more moderate zone. By leveling mood swings, some of the suicidal and

other self-harming behaviors seen with bipolar disorder can be decreased.

Usual Dose Frequency and Side Effects

All drugs have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. How much medicine and how often to take it are specified on the prescription bottle. Most medications in this class are given two to four times per day. Some extended release formulations may be given every 12 hours. Dosage is determined by the active amount of the drug found in the person's blood after taking the medication and by his or her response to the medication. Expect a check of monthly blood levels until the person is well established at the optimal dose. The most common side effects to the anticonvulsants are sedation and weight gain. Some anticonvulsants are generic and relatively inexpensive, others are quite expensive. Lithium's most common side effects are tremor, acne, and weight gain. The most common side effects for the atypical antipsychotics are mentioned above in that section.

Potential side effects

- Blurred vision
- Coma*
- Diarrhea*
- Drowsiness
- Fatigue
- Hand tremor*
- Increased thirst and urination*
- Inflammation of the pancreas
- Irregular heart beats
- Kidney damage*
- Liver inflammation (hepatitis)
- Nausea or vomiting
- Problems with the blood (both red and white blood cells)
- Rash and skin changes
- Seizures
- Under- or overactive thyroid*
- Weakness
- Weight gain

* Lithium, anticonvulsants, and atypical antipsychotics only. Effects vary greatly between patients.

Note: People taking lithium may require more fluids than they did before taking lithium. Too much fluid in a person's diet can "wash" the lithium out of his or her system. Too little fluid can allow the lithium to concentrate in the system. Additionally, anything that can decrease sodium in the body (i.e., decreased table salt intake, a low-salt diet, excessive sweating during strenuous exercise, diarrhea, vomiting, etc.) could result in lithium toxicity. People taking any antimanic drugs should have blood levels tested regularly to check the concentration level of the drug in their bodies.

Emergency conditions

Lithium overdose is a life-threatening emergency. Signs of lithium toxicity may include nausea, vomiting, diarrhea, drowsiness, mental dullness, slurred speech, confusion, dizziness, muscle twitching, irregular heartbeat, and blurred vision.

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter preparations, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).
- People taking antimanic drugs should not increase their dose unless this has been ***checked with their physician and a change is ordered***.
- Take medications as ordered and at the prescribed times.
- Persons taking antimanic drugs are particularly vulnerable to adverse medical conse-

quences if they concurrently use alcohol and/or illicit drugs.

- Lithium can cause birth defects in the first 3 months of pregnancy.
- Thyroid function must be monitored if a person takes lithium.
- Heavy sweating or use of products that cause excessive urination (e.g., coffee, tea, some high caffeine sodas, diuretics) can lower the level of lithium in the blood.
- Blood tests for drug levels need to be checked every 1 to 2 months.
- Use of these drugs will lower the effectiveness of birth control medications.

Special considerations for pregnant women

Generally, the use of antipsychotic medications should be avoided in the first trimester unless the mother poses danger to herself, to others, or to the unborn child, or if the mother exhibits profound psychosis (Cohen 1989). Some, such as valproic acid, are associated with several disfiguring malformations if taken during pregnancy. If this type of medication must be used during pregnancy, the woman must be told that there is substantial risk of malformations (Robert et al. 2001). Lithium is also a suggested teratogen; children who were exposed before week 12 of gestation should be apprised of the increased risk of cardiac abnormalities. For women taking lithium, the medication should be monitored every 2 weeks and ultrasound should be performed on the fetus to exclude goiter (Mortola 1989).

Tapering and discontinuation of antipsychotic medication 10 days to 2 weeks before delivery is generally advised, though the protocols vary by medication (Mortola 1989). For all women of child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion between their clients and the prescribing clinician.

Antidepressant Medications

Generic and brand names

Generic	Brand
Monoamine oxidase inhibitors	
isocarboxazid	Marplan
phenelzine	Nardil
tranylcypromine	Parnate
Tricyclics and quatracyclics	
amitriptyline	Elavil
amoxapine	Asendin
clomipramine	Anafranil
desipramine	Nopramin, Pertofrane
doxepin	Sinequan
imipramine	Tofranil
maprotiline	Ludiomil
nortriptyline	Pamelor
protriptyline	Vivactil
SSRIs—selective serotonin reuptake inhibitors	
citalopram	Celexa
escitalopram oxalate	Lexapro
fluoxetine	Prozac, Prozac Weekly, Sarafem
fluvoxamine	Luvox
paroxetine	Paxil, Paxil CR
sertraline	Zoloft

Others

bupropion	Wellbutrin, Wellbutrin SR
mirtazapine	Remeron, Remeron SolTab
nefazodone	Serzone
trazodone	Desyrel
venlafaxine	Effexor, Effexor ER

Purpose

Antidepressant medications are used for moderate to serious depressions, but they can also be very helpful for milder depressions such as dysthymia. Most antidepressants must be taken for a period of 3 to 4 weeks to begin to reduce or take away the symptoms of depression but a full therapeutic effect may not be present for several months. Treatment for a single episode of major depression should continued for two years before discontinuing, and since major depression is a chronic recurrent illness in many patients, chronic use of antidepressants is often indicated. Discontinuing antidepressant therapy before the depression is completely resolved may result in the client decompensating and possibly becoming medication resistant. Untreated depression may result in suicide. Therefore, treatment for depression must be taken as seriously as treatment for any other major life-threatening illness. Antidepressants are also the first line medications for certain anxiety disorders such as panic disorder, social phobia, and obsessive-compulsive disorders.

Types of antidepressants

Older and less commonly used (due to safety and side effects) antidepressants include the tricyclic and quatracyclic antidepressants (named for their chemical structures) and the monoamine oxidase (MAO) inhibitors. MAO inhibitors are used for "atypical depressions," which produce symptoms like oversleeping, anxiety or panic attacks, and phobias. MAO inhibitors may also be used when a person does not respond to other antidepressants. The most frequently used class of antidepressants is the selective serotonin reuptake inhibitors (SSRIs). They are often prescribed because of their broad effectiveness, low side effects, and safety. The SSRIs are thought to affect the serotonin system to reduce symptoms of depression, and include fluoxetine, paroxetine, sertraline, citalopram, and escitalopram. Prozac Weekly is an extended release formula of Prozac (fluoxetine) that can be dosed once per week. Sarafem is fluoxetine under another label used for treatment of premenstrual dysphoric disorder. Other new antidepressants, such as venlafaxine (Effexor) work on both the serotonin and norepinephrine levels. Bupropion (Wellbutrin) is an antidepressant unrelated to other antidepressants; it has more effect on norepinephrine and dopamine levels than on serotonin levels in the brain. In addition, bupropion can be "activating" (as opposed to sedating) and, although not associated with weight gain or sexual dysfunction like many other antidepressant medications, it should be avoided by people who are at risk for or who currently have a seizure disorder.

Usual dose and frequency and side effects

All drugs have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. How much medicine and how often to take it are specified on the prescription bottle. Several factors are considered before an antidepressant is prescribed: the type of drug, the person's individual body chemistry, weight, and age. Clients are generally started on a low dose, and the dosage is slowly raised until the optimal effects are reached without the appearance of troublesome side effects. The most usual side effects to the older tricyclics are common and include dry mouth and sedation, but these drugs are inexpensive. For SSRIs, both mild sedation and mild agitation are sometimes found and this class includes both generic mod-

erate-expense and brand-only (expensive) versions. The most difficult SSRI side effect is decreased sexual performance, which may be difficult for many patients to discuss. Sleeplessness and agitation are the most common side effects for both bupropion and venlafaxine (both expensive, but bupropion is soon to be generic with decreased cost).

Potential side effects

MAO inhibitors

- Blood cell problems (both white and red cells)
- Dizziness when changing position
- Fluid retention
- Headache
- High blood pressure crisis
- Insomnia
- Lack of appetite
- Rapid heart beat

Tricyclics and quatracyclics

- Allergic reactions
- Blood cell problems (both white and red cells)
- Blurred vision
- Change in sexual desire
- Changes in heartbeat and rhythm
- Constipation
- Decrease in sexual ability
- Difficulty with urination
- Dizziness when changing position
- Dry mouth
- Fatigue
- Heart block
- Increased sweating
- Kidney failure (with Asendin)
- Muscle twitches
- Neuroleptic malignant syndrome (with Asendin)
- Seizures
- Stroke
- Weakness
- Weight gain

SSRIs

- Anxiety, agitation, or nervousness
- Change in sexual desire
- Confusion
- Decrease in sexual ability
- Diarrhea or loose stools
- Dizziness
- Dry mouth
- Headache
- Heart rhythm changes
- Increased sweating
- Insomnia or sleepiness
- Lack or increase of appetite
- Shakiness
- Stomach upset
- Taste disturbances (with Wellbutrin)
- Weight loss or gain

Emergency conditions

An overdose of any of the MAO inhibitors, tricyclics, quatracyclics, or other antidepressants is serious and potentially life threatening and ***must be reported to a physician immediately***. While the potential for a fatal outcome is much less with the SSRIs, the possibility that a person has attempted suicide should be dealt with as an emergency situation that needs immediate intervention.

Symptoms of tricyclic and quatracyclic overdose may include rapid heartbeat, dilated pupils, flushed face, agitation, loss of consciousness, seizures, irregular heart rhythm, heart and breathing stopping, and death.

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter prepara-

tions, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).

- People taking antidepressant drugs should not increase their dose unless this has been ***checked with their physician and a change is ordered***.
- Withdrawal from SSRIs and other new antidepressants can cause flu-like symptoms. Discontinuting antidepressant therapy should be done gradually under a physician's care.
- Take medications as ordered and at the prescribed times.
- Persons taking MAO inhibitors must avoid all foods with high levels of tryptophan or tyramine (aged cheese, wine, beer, chicken liver, chocolate, bananas, soy sauce, meat tenderizers, salami, bologna, and pickled fish). High levels of caffeine must also be avoided. If eaten, these foods may react with the MAO inhibitors to raise blood pressure to dangerous levels.
- Many drugs interact with the MAO inhibitors. Largely for this reason they are rarely used. Do not take any other medications unless they are approved by the treating physician. Even a simple over-the-counter cold medication can cause life-threatening side effects.
- Clients using MAO inhibitor antidepressants should check all new medications with a physician or pharmacist before taking them.
- People taking antidepressant drugs are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or street drugs.
- If there is little to no change after 3 to 4 weeks, talk to the doctor about raising the dose or changing the antidepressant.
- Treatment with antidepressants usually lasts a minimum 9 to 12 months. Many patients are on long-term antidepressant therapy to avoid the frequency and severity of depressive episodes.

Special considerations for pregnant women

The use of SSRIs, a class of antidepressant medication, is safer for the mother and fetus than are tricyclic antidepressants (Garbis and McElhatton 2001). Fluoxetine (Prozac) is the most studied SSRI in pregnancy and no increased incidence in malformations was noted, nor were there neurodevelopmental effects observed in preschool-age children (Garbis and McElhatton 2001). However, possible neonatal withdrawal signs have been observed. Given that the greatest amount of data are available for fluoxetine (Prozac), this is the recommended SSRI for use during pregnancy (Garbis and McElhatton 2001). MAO inhibitors use is contraindicated in pregnancy, and its use should be discontinued immediately if a woman discovers she is pregnant (Mortola 1989). The physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment with all women of child-bearing age who may be or think they may be pregnant. Substance abuse counselors may have a role in encouraging this discussion between their clients and the prescribing physician.

Antianxiety Medications

Generic and brand names

Generic	Brand
Antidepressants see above	
Benzodiazepines	
alprazolam	Xanax
chlordiazepoxide	Librium, Libritabs, Librax
clonazepam	Klonopin
clorazepate	Tranxene
diazepam	Valium

lorazepam	Ativan
oxazepam	Serax
Beta-blockers	
propranolol	Inderal
Other	
buspirone	BuSpar
hydroxyzine embonate	Atarax
hydroxyzine pamoate	Vistaril
meprobamate	Miltown
olanzapine	Zyprexa, Zyprexa Zydis
quetiapine fumarate	Seroquel
risperidone	Risperdal

Purpose

Antianxiety medications are used to help calm and relax the anxious person as well as remove troubling symptoms associated with generalized anxiety disorder, posttraumatic stress disorder, panic, phobia, and obsessive-compulsive disorders. The most common antianxiety medications are the antidepressants and the benzodiazepines. The SSRI antidepressants have become first line medications for the treatment of panic, social phobia, and (in higher doses) obsessive-compulsive disorders. Both benzodiazepines and meprobamate (no longer readily available) are cross tolerant with alcohol, are abusable, and have a market as street drugs; thus most addiction medicine physicians only use them acutely as alcohol withdrawal medicines, or as sedatives in acutely psychotic or manic psychiatric patients. If used in outpatients, these patients would need careful monitoring for tolerance and abuse. They both have a depressant effect on the central nervous system and are relatively fast acting. Miltown, rarely prescribed anymore, is a non-benzodiazepine but works very much like one to quickly calm anxiety.

Beta-blockers work on the central nervous system to reduce the flight or fight response. Inderal is occasionally prescribed for performance anxiety and is nonaddictive.

BuSpar works through the serotonin system to induce calm. BuSpar takes 3 to 4 weeks to get into the brain to successfully combat anxiety. Atarax and Vistaril are antihistamines that use the drowsiness side effect of the antihistamine group to calm and relax. Vistaril and Atarax work within an hour of being taken and, like BuSpar, are not addictive.

Low doses of Risperdal, Seroquel, and Zyprexa may be used (though this is expensive, off-label and is not FDA approved) as non-addictive antianxiety medications, usually in cases in which several other medications have failed. Their special formulation works to reduce anxiety and help the person think more clearly, though the mechanism for this is unclear.

Usual dose, frequency, and side effects

All drugs have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. How much medicine and how often to take it are specified on the prescription bottle. Inderal is taken as needed for performance anxiety or regularly if it is being used for treatment of a heart condition. People are usually started on a low dose of medication, which is raised gradually over time until symptoms are removed or diminished. Major factors considered in establishing the correct dose are individual body chemistry, weight, and ability to tolerate the medication. Clients taking benzodiazepines for longer than 4 to 8 weeks may develop physical tolerance to the medication. Benzodiazepines have a moderate potential for abuse. Withdrawal symptoms may occur even when taken as directed, if regular use of benzodiazepines is abruptly stopped. Withdrawal from high dose abuse of benzodiazepines may be a life-threatening situation. For these reasons benzodiazepines are usually prescribed for brief periods of time—days or weeks—and

sometimes intermittently for stressful situations or anxiety attacks. Ongoing continuous use of benzodiazepines is not recommended for most people, especially those with a past or current history of substance abuse or dependence.

Beta-blockers act on the sympathetic nervous system and are not considered addictive. They also are used to treat hypertension, thus side effects might be low blood pressure or dizziness. Beta-blockers may enhance the effects of other psychotropic medications and are inexpensive.

BuSpar is often used for control of mild anxiety and is considered safe for long-term therapy but is expensive.

Vistaril and Atarax are both antihistamines, are used as safe nonaddictive medications to reduce anxiety, and are inexpensive. They may be used for longer-term therapy. They enhance the sedative effect of other drugs that cause drowsiness, and their most common side effects are dry mouth and sedation, but in older men, urinary retention may develop and is serious.

Potential side effects

- Blood cell irregularities
- Constipation
- Depression
- Drowsiness or lightheadedness
- Dry mouth
- Fatigue
- Heart collapse
- Irregular heart beat (Miltown)
- Loss of coordination
- Memory impairment (Inderal)
- Mental slowing or confusion
- Slowed heart beat (Valium)
- Stomach upset
- Suppressed breathing
- Weight gain

Potential for abuse or dependence

Between 11 and 15 percent of the American public takes a form of antianxiety medication—including benzodiazepines—at least once each year, and if antidepressants are included, this figure is doubled. Benzodiazepines may cause at least mild physical dependence in almost everyone who uses the medication for longer than 6 months (i.e., if the medicine is abruptly stopped, the person will experience anxiety, increased blood pressure, fast heart beat, and insomnia). However, becoming physically dependent on benzodiazepines does not mean abuse or addiction. Fewer than 1 percent of those without an addiction history who take benzodiazepines develop a substance abuse problem. In general, abuse and dependence occur at lower rates with long-acting antianxiety medications (e.g., Klonopin, Serax, and Tranxene). Abuse and dependence are more likely to occur with faster-acting, high-potency antianxiety medications (e.g., Ativan, Valium, and Xanax).

Emergency conditions

High doses of Valium can cause slowed heartbeat, suppression of breathing, and heart stoppage.

Withdrawal from regular use of any of the benzodiazepines and similar medications must be done slowly over a month's time. Abrupt withdrawal from these drugs can cause hallucinations, delusions and delirium, disorientation, difficulty breathing, hyperactivity, and grand mal seizures. To avoid these acute withdrawal symptoms, a protocol for decreasing or tapering off doses of benzodiazepine is needed. Overdose on the older tricyclic medications, which are often used for combined anxiety depression disorders, can be life threatening and immediate referral to emergency care is indicated.

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter preparations, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).
- People taking antianxiety drugs should not increase their dose unless this has been ***checked with their physician and a change is ordered***.
- People should not discontinue use of these medications without talking to a doctor.
- People taking antianxiety medication are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or illicit drugs.
- Using alcohol in combination with benzodiazepines may result in breathing failure and sudden death.

Special considerations for pregnant women

For use of the antidepressants in pregnancy, see above section. The current state of knowledge suggests that benzodiazepine therapy in general does not have as much of a teratogenic (producing a deformed baby) risk as do other anticonvulsants as long as they are given over a short time period. It appears that short-acting benzodiazepines, like those used to treat alcohol withdrawal, can be used in low doses for acute uses such as detoxification, even in the first trimester (Robert et al. 2001). Long-acting benzodiazepines should be avoided—their use during the third trimester or near delivery can result in a withdrawal syndrome in the baby (Garbis and McElhatton 2001).

During pregnancy, the protein binding of many drugs, including methadone and diazepam (a benzodiazepine), is decreased (e.g., Adams and Wacher 1968; Dean et al. 1980; Ganrot 1972) with the greatest decrease noted during the third trimester (Perucca and Crema 1982). This decreased binding may be due to the decreased levels of albumin reported during pregnancy (Yoshikawa et al. 1984). From a clinical standpoint, it may be that pregnant women could be at risk for developing greater toxicity and side effects, yet at the same time an increase in metabolism of the drug may result (such as found with methadone). This may result in reduced therapeutic effect from the drug, since many women require an increase in their dose of methadone during the last trimester (Pond et al. 1985). It should be noted that there is a documented withdrawal syndrome in neonates who have been prenatally exposed to benzodiazepines (Sutton and Hinderliter 1990) and this syndrome may be delayed in onset more than that associated with other drugs. For more information, see the forthcoming TIP *Substance Abuse Treatment: Addressing the Specific Needs of Women* (CSAT in development *b*).

For all women of child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting this to their clients.

Stimulant Medications

Generic and brand names

Generic	Brand
d-amphetamine	Dexedrine
l & d-amphetamine	Adderall, Adderall CII, Adderall XR
methamphetamine	Desoxyn
methylphenidate	Ritalin, Ritalin SR, Concerta, Metadate ER, Metadate CD, Methylin ER, Focalin
pemoline	Cylert
modafinil	Provigil

Non-stimulants for AD/HD

atomoxetine hydrochloride	Strattera+
bupropion	Wellbutrin++
guanfacine	Tenex

\+ Strattera is FDA approved

\+ + Studies have shown bupropion to be effective, but it is not FDA approved for this use

Purpose

Used to treat attention deficit/hyperactivity disorder (AD/HD), which is typically diagnosed in childhood but also occurring in adults. Symptoms consistent with AD/HD include short attention span, excessive activity (hyperactivity), impulsivity, and emotional development below the level expected for the client's age. The underlying manifestation of AD/HD is that it severely impacts and interferes with a person's daily functioning. Other conditions that may be treated with stimulants are narcolepsy, obesity, and sometimes depression. While stimulants have been shown to reduce substance abuse onset in children, for adult populations with substance abuse problems, most addiction medicine doctors use antidepressants or atomoxitine. People with AD/HD generally report that they feel "normal" when taking stimulants. They cite increased concentration, focus, and ability to stay on task and behave appropriately when taking the medications.

Non-stimulant medications differ somewhat. Strattera blocks the reuptake of norepinephrine. It works by leaving more norepinephrine in the brain, which in turn reduces the symptoms of AD/HD. Tenex and Wellbutrin are non-stimulants that have been used successfully to treat symptoms of AD/HD. The advantage of these medications is that they are non-addictive.

Usual dose, frequency, and side effects

All drugs have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. How much medicine and how often to take it are specified on the prescription bottle. With stimulants there may be periods when the medication is not to be taken. The most common side effects of the stimulants are nervousness, sleeplessness, and loss of appetite. Some are expensive, but others are generic and quite inexpensive.

Potential side effects

Stimulants

- Blood disorders (Ritalin and Cylert)
- Change in heart rhythm
- Delayed growth
- Dilated pupils
- Elevated blood pressure
- Euphoria
- Excitability
- Increased pulse rate
- Insomnia
- Irritability
- Liver damage (Cylert)
- Loss of appetite
- Rash
- Seizures (Ritalin and Cylert)
- Tourette's syndrome (Cylert)
- Tremor

Non-stimulants for AD/HD

- Strattera side effects include:
  - High blood pressure
  - Nervousness and the side effects similar to norepinephrine-sparing antidepressants
- Wellbutrin side effects include increased chance of seizure activity.

- Tenex side effects include:
  - Constipation
  - Dizziness
  - Dry mouth
  - Low blood pressure
  - Sleepiness

Note: People taking these medications need to be monitored closely for tolerance and dependence. AD/HD patients generally note increased concentration, focus, and ability to stay on task and behave appropriately when taking the medications.

Potential for abuse or dependence

Prescription stimulant medications may be misused. Recreational or non-medically indicated uses have been reported for performance enhancement and/or weight loss. People with AD/HD or narcolepsy rarely abuse or become dependent on stimulant medications.

Emergency conditions

Psychiatric symptoms including paranoid delusions, thought disorder, and hallucinations have been reported with prolonged use or when taken at high dosages. Overdose with stimulants is a medical emergency. Seek help immediately.

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter preparations, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).
- People taking stimulant drugs should not increase their dose unless this has been ***checked with their physician and a change is ordered***.
- People taking stimulant medications are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or illicit drugs.
- With stimulants, there is the potential for development of tolerance and dependence on the medications with accompanying withdrawal. The potential for abuse and misuse is high, as is true with all schedule II drugs.

Special considerations for pregnant women

For women of child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting this to their clients.

Narcotic and Opioid Analgesics

Natural opioids

- Opium, morphine, and codeine products

Pure, semi- or totally synthetic derivatives, opioids

- Heroin, Percodan, Demerol, Darvon, oxycodone, and others

Generic and brand names

Generic	Brand
buprenorphine	Buprinex
buprenorphine	Subutex, Suboxone*
butorphanol tartarate	Stadol spray
codeine phosphate	Codeine tablets
codeine sulfate	Codeine tablets

dihydromorphone hydrochloride	Dilaudid-5, Dilaudid HP
fentanyl transdermal	Duragesic patches
fentanyl transmucosal	Fentanyl, Oraley
hydromorphone hydrochloride	Dilaudid
meperidine hydrochloride	Demerol
methadone hydrochloride	Methadone
morphine hydrochloride	Morphine
morphine sulfate	Oramorph, Roxanol, Statex
oxycodone hydrochloride	Roxicodone, OxyContin
oxymorphone hydrochloride	Numorphan
pentazocine hydrochloride	Talwin
propoxyphene hydrochloride	Darvon
propoxyphene napsylate	Darvon-N
tramadol hydrochloride	Ultram

* Combined with naloxone and taken sublingually

The following products use a combination of an opioid or narcotic along with aspirin, Tylenol, or other pain reliever to treat mild to moderate pain.

Anesxia 5/50

Capital with Codeine

Darvocet N 100

Darvocet N 50

E-Lor or Wygesic

Empirin or Phenaphen with Codeine #3

Empirin or Phenaphen with Codeine #4

Endocet, Percocet, or Roxicet

Fioricet with Codeine

Fiorinal with Codeine

Lorcet Plus

Lortab

Percodan

Roxicet

Roxicet oral solution (contains alcohol)

Roxiprin

Talacen

Talwin Compound

Tylenol with Codeine

Tylenol with Codeine syrup (contains alcohol)

Tylox

Vicodin

Vicodin ES

Purpose

Some of these drugs are used to control acute pain that is moderate to severe. They are normally used only for acute pain—and for a short time—because they could become addictive. An exception is using opioids to alleviate the chronic pain associated with cancer, where research has shown that abuse or addiction to these medications rarely occurs. Severe and chronic pain has long been undertreated in the United States. This is partly due to concerns about addiction and partly due to laws that made certain opioids, like heroin, illegal. However, people with addictions still feel pain and, in certain situations, they need pain management just like anyone else. To manage pain, doctors are beginning to prescribe opioids more freely—including methadone and buprenorphine, which are recognized as effective pain medications.

Methadone is a synthetic opioid used in heroin detoxification programs and to maintain sobriety from heroin addiction. Many people who have been addicted to heroin have returned to a productive life because of methadone maintenance programs. Methadone is also occasionally used to provide relief for specific types of pain.

Usual dose and frequency

All drugs have specific doses and frequencies. A doctor will specify the exact amount of medication and when a person should take it. How much medicine and how often to take it are always specified on the prescription bottle. Many medications are taken two or more times a day. Some medications are taken in pill or liquid form. Others are taken in liquid form. A few are taken in a nasal spray or as transdermal patches. Injectable narcotics are not listed here because they are not often used outside a hospital setting. There are many nonaddictive pain medications (medications that pose no risk for addiction) available for pain management that can be used after acute pain is reduced.

Potential side effects

- Constipation
- Decreased ability to see clearly
- Decreased ability to think clearly
- Flushing and sweating
- Pupil constriction
- Respiratory depression
- Stomach upset
- Tolerance

Potential for abuse or dependence

With opioid medications, there is a potential for the development of tolerance and dependence as well as the possibility of abuse and severe withdrawal reactions.

Emergency conditions

- Convulsions and/or cardiac arrest with high dosages
- Overdose may increase pulse rate, and result in convulsions followed by coma or death
- Overdose may depress the breathing centers in the brain leading to lack of ability to breathe

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter preparations, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).
- People taking opioid drugs should not increase their dose unless this has been ***checked with their physician and a change is ordered***.
- Persons taking an opioid medication are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or illicit drugs, because alcohol and illicit drugs can increase the sedation effects of the opioids.
- With opioid medications there is a potential for the development of tolerance and dependence as well as the possibility of abuse and severe withdrawal reactions.

Special considerations for pregnant women

For all women of child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Both pregnant women and their unborn infants can become tolerant and physically dependent on opioids and this dependence as well as possible withdrawal syndromes need to be assessed. Substance abuse counselors may have a role in encouraging this discussion by suggesting this to their clients.

Antiparkinsonian Medications

Generic and brand names

Generic	Brand
amantadine hydrochloride	Symmetrel, Symadine
benzotropine maleate	Cogentin
diphenhydramine hydrochloride	Benadryl
trihexyphenidyl hydrochloride	Artane

Purpose

These medications are used to counteract the side effects of the antipsychotic drugs. They are called antiparkinsonian because the neurological side effects of the antipsychotic medications are similar to the symptoms of Parkinson's disease.

Usual dose and frequency

The amount of the medication and the correct times to take it are labeled on the prescription bottle. These medications have very specific doses, and too much can be harmful. As with all medications, a doctor must be consulted in order to safely change the dose in response to side-effect symptoms of the antiparkinsonian medications.

Potential side effects

- Constipation
- Dizziness
- Dry mouth
- Heart failure
- Irritability
- Light-headedness
- Stomach upset
- Tiredness

Emergency conditions

Report any overdose, changes in heart rate or rhythm to the doctor immediately.

Abuse liability of anticholinergic medications

Anticholinergic medications such as benztropine, trihexyophenidyl, and diphenydramine are used as adjuncts to neuroleptics to control extrapyramidal side effects. However, despite their utility, these substances can be abused by some patients with severe mental illness who require neuroleptics. One patient survey found that many abusers of anticholinergics used these agents "to get high, to increase pleasure, to decrease depression, to increase energy and to relax" (Buhrich et al. 2000, p. 929). The survey also found that the misuse of other drugs accompanied the misuse of anticholinergics. Consequently, in the context of COD, providers and consumers need to be aware of the abuse potential of anticholinergics. Open communication between providers and patients is critical to avoid complication from the abuse of these substances.

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter preparations, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).
- People taking antiparkinsonian drugs should not increase their dose unless this has been ***checked with their physician and a change is ordered***.

Special considerations for pregnant women

The risk of malformation associated with benztropine, trihexylphenidyl, and diphenhydramine is not clear, although there is some evidence to suggest that amantadine may be teratogenic (Mortola 1989). For all women of

child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting this to their clients.

Hypnotics

Generic and brand names

Generic	Brand
Barbiturates	
secobarbital	Seconal
Benzodiazepines	
estazolam	ProSom
flurazepam	Dalmane
temazepam	Restoril
triazolam	Halcion
Non-benzodiazepine	
zaleplon	Sonata
zolpidem	Ambien
sedating antidepressants	trazedone, mirtazepine, Serzone, tricyclics
anticonvulsants	gabapentin, divalproex, topiramate

Purpose

Hypnotics are used to help a person with sleep disturbances get restful sleep. Lack of sleep is one of the greatest problems faced by people with chemical dependency and psychiatric illness. It can cause the symptoms of these disorders to worsen. For example, mood changes, psychosis, and irritability increase with insomnia. Lack of sleep diminishes a person's ability to think clearly or process information. Sleep–wake cycles and the body's ability to heal itself also suffer when a person is sleep deprived. Older hypnotics cause the body to slow down and "pass out" or sleep. However, they also have a tendency to disturb sleep-staging cycles.

Benzodiazepines enhance the body's natural calming agents, which induces sleep. Ambien and Sonata are non-benzodiazepines that affect one of the body's receptors for the natural calming agent, GABA. These medications induce sleep. They are short acting and do not disturb sleep-staging cycles. Rebound insomnia is a side effect of both Ambien and Sonata. This side effect can be produced if the medications are used for more than 2 weeks and then abruptly stopped.

Antidepressant sleep enhancers work by using their sleep producing side effects to induce sleep. They are nonaddictive but have the capacity to produce all the side effects of their class of antidepressant. Atypical antipsychotics use their calming and sedation side effects to induce sleep. They are non-addictive but have the capacity to produce all the side effects of atypical antipsychotics.

Paradoxically, those with addiction disorders can become rapidly tolerant and dependent on the most commonly used hypnotics, which are the benzodiazepines and zolpidem (barbiturates are now rarely used). Tolerance can lead to decreasing effectiveness, escalating doses, and an even worse sleep disorder when the agent is withdrawn. For this reason, most addiction medicine doctors use anticonvulsants, sedating antidepressants, or sedating antihistamines if the sleep problem continues past acute withdrawal symptoms.

Usual dose and frequency

All drugs have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. How much medicine and how often to take it are

specified on the prescription bottle. All of these medications are generally used for limited periods (3 to 4 days for barbiturates or up to a month for others). For all of these medications, tolerance develops quickly and eventually the usual dose will no longer help the person to sleep.

Potential side effects

- Breathing difficulty (Secobarbital)
- Dizziness
- Drowsiness
- Hangover or daytime sleepiness
- Headache
- Lethargy
- Weakness

Note: There are many drawbacks to long-term use of hypnotics (sleeping pills) such as damaged sleep staging and addiction. Even Ambien and Sonata, if taken for longer than 7 to 14 days, can have a discontinuation rebound insomnia effect. Newer nonaddictive medications are now available to treat insomnia.

Potential for abuse or dependence

See *Potential for Abuse or Dependence* for benzodiazepines.

Emergency conditions

- Overdose with any of these medications can be life threatening. Seek help immediately in the event of an overdose.
- Combinations of alcohol and barbiturates or alcohol and benzodiazepines can be deadly.

Cautions

- Doctors and pharmacists should be told about all medications being taken (including dosage), including over-the-counter preparations, vitamins, minerals, and herbal supplements (e.g., St. John's wort, echinacea, ginko, ginseng, etc.).
- People taking hypnotic drugs should not increase their dose unless this has been ***checked with their physician and a change is ordered***.
- People taking hypnotic medications are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or illicit drugs.
- With hypnotics, there is the potential for development of tolerance and dependence on the medications with accompanying withdrawal. The potential for abuse and misuse is high.

Special considerations for pregnant women

Barbiturate use during pregnancy has been studied to some extent, but the risk of medication should be discussed with the patient (Robert et al. 2001). There also are reports of a withdrawal syndrome in the neonate (newborn baby) following prenatal exposure to some barbiturates (Kuhnz et al. 1988). For all women of child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting this to their clients.

Addiction Treatment Medications

Generic and brand names

Generic	Brand
Antialcoholic	
Disulfram	Antabuse
Opiate blockers and antialcoholic	
Naltrexone hydrochloride	ReVia, Depade

Partial opiate blockers

buprenorphine	Suboxone, Subutex

Opiate maintenance

methadone hydrochloride	Methadone

Other

Acamprosate*

* Works through the GABA system and holds promise for alcohol craving and preventing relapse through a different method than naltrexone. Not reported to be psychoactive.

Purpose

These drugs are used to reduce cravings and the psychological reward from initial use of alcohol or opioids.

Antabuse causes a toxic reaction if alcohol is drunk; that is, it causes an unpleasant physical reaction when the person consumes even a small amount of alcohol. It is used as an aversion therapy for some clients who chronically abuse alcohol to help them remain in a state of enforced sobriety which allows time for supportive and psychotherapeutic treatment to be applied. Antabuse is not psychoactive, although it may make hallucinations worse at high doses (i.e., above 500 mg/day). Patients need to avoid *all* alcohol, even in other sources such as cooking or skin care products, because any alcohol can cause reactions.

Naltrexone completely blocks the pleasurable reinforcement that comes from opioids. It is more commonly used to reduce craving for alcohol and reduce the duration of any relapse to drinking. In research studies it has been shown to moderately decrease alcohol craving and relapse. It is nonpsychoactive, but can interfere with the use of opioids for acute pain.

Buprenorphine is a prescription medication approved in 2002 for treating opioid addiction. It can be used for both opioid withdrawal and as a substitute for opioids in long-term treatment. Buprenorphine is the first medication available to doctors for use in their office-based practice. At low doses, it acts like methadone and satisfies the dependent person's need for an opioid to avoid painful withdrawal. It does not provide the user with the euphoria or rush typically associated with use of other opioids or narcotics. At moderate to high doses, it can precipitate withdrawal. It is, therefore, safer in overdose than methadone.

Methadone has been used in the United States for maintenance treatment of opioid addiction since the 1960s. It is a synthetic, long-acting drug used in heroin detoxification programs to maintain abstinence from heroin addiction. When used in proper doses, methadone stops the cravings but does not create euphoria, sedation, or an analgesic effect. Many people who have been addicted to heroin have returned to a productive life because of methadone maintenance treatment programs. Methadone also is occasionally used to provide relief for specific types of pain.

Usual dose and frequency

All drugs have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. How much medicine and how often to take it are specified on the prescription bottle. Antabuse should never be given to clients without their full knowledge or when they are intoxicated. It should not be given until the client has abstained from alcohol for at least 12 hours. A daily, uninterrupted dose of Antabuse is continued until the client is in full and mature recovery and has reorganized his or her life to maintain recovery. Maintenance therapy may be required for months or even years.

Naltrexone is usually taken once a day but can be taken at a higher dose every second or third day. It is usually started at full dose. Clients should continue to take naltrexone until they

have reached full and mature recovery and have reorganized their life to maintain recovery.

Suboxone is given as a sublingual tablet (it is absorbed under the tongue). It is not absorbed if swallowed or chewed. If injected intravenously, Suboxone will cause opioid withdrawal. Suboxone and Subutex can be given by prescription and do not require daily attendance at a clinic. This is an advantage for persons who do not live near a methadone clinic.

Potential Side Effects

Potential side effects for Antabuse:

- Dark urine
- Drowsiness
- Eye pain
- Fatigue
- Impotence
- Indigestion
- Inflammation of optic nerve
- Jaundice
- Light colored stool
- Liver inflammation
- Loss of vision
- Psychotic reactions
- Skin rashes, itching
- Tingling sensation in arms and legs

Potential side effects for the opioid blockers/opioids are similar to the class of opioid drugs (if buprenorphine is given in high dose, opioid withdrawal symptoms may occur):

- Abdominal cramps
- Body aches lasting 5–7 days
- Diarrhea
- Dizziness
- Fatigue
- Headache
- Insomnia
- Nausea
- Nervousness
- Opioid withdrawal (in some cases)
- Runny eyes and nose
- Severe anxiety
- Vomiting

Emergency Conditions

- Convulsions and/or cardiac arrest with high dosages.
- Overdose may increase pulse rate, result in convulsions followed by coma or death.
- Overdose may depress the breathing centers in the brain leading to inability to breathe.

Cautions

- Doctors and pharmacists should be told about all medications being taken, including over-the-counter preparations.
- Persons taking Antabuse should be warned to avoid even small amounts of alcohol in other food products or "disguised forms" (e.g., vanilla, sauces, vinegars, cold and cough medicines, aftershave lotions, liniments) as this will cause a reaction.
- Persons taking Antabuse should be warned that consuming even small amounts of alcohol will produce flushing, throbbing in head and neck, headache, difficulty breathing, nausea, vomiting, sweating, thirst, chest pain, rapid heart rate, blurred vision, dizziness, and confusion.
- Persons taking opioid medications should not increase their dose unless this has been ***checked with their physician and a change is ordered***.
- People taking opioid medications are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or illicit drugs.
- Persons taking Naltrexone should be warned that if they are dependent on opioids, taking Naltrexone will cause opioid withdrawal for up to 3 days and block the effect of any opioids taken for up to 3 days.

Special considerations for pregnant women

While it is not recommended that pregnant women who are maintained on methadone undergo detoxification, if these women require detoxification, the safest time to detoxify them is during the second trimester. For further information, consult the forthcoming TIP *Substance Abuse Treatment: Addressing the Specific Needs of Women* (CSAT in development *b*). In contrast, it is possible to detoxify women dependent on heroin who are abusing illicit opioids by using a methadone taper. Buprenorphine has been examined in pregnancy and appears to lack teratogenic effects but may be associated with a withdrawal syndrome in the neonate (Jones and Johnson 2001); however, regardless of the efficacy and safety of buprenorphine with pregnant women, it has not yet been approved for use with this population. A National Institutes of Health consensus panel recommended methadone maintenance as the standard of care for pregnant women with opioid dependence.

Pregnant women should be maintained on an adequate (i.e., therapeutic) methadone dose. An effective dose prevents the onset of withdrawal for 24 hours, reduces or eliminates drug craving, and blocks the euphoric effects of other narcotics. An effective dose usually is in the range of 50–150mg (Drozdick et al. 2002). Dosage must be individually determined, and some pregnant women may be able to be successfully maintained on less than 50mg while others may require much higher doses than 150mg. The dose often needs to be increased as a woman progresses through gestation, due to increases in blood volume and metabolic changes specific to pregnancy (Drozdick et al. 2002; Finnegan and Wapner 1988).

Generally, dosing of methadone is for a 24-hour period. However, because of metabolic changes during pregnancy it might not be possible to adequately manage a pregnant woman during a 24-hour period on a single dose. Split dosing, particularly during the third trimester of pregnancy, may stabilize the woman's blood methadone levels and effectively treat withdrawal symptoms and craving.

Breastfeeding is not contraindicated for women who are on methadone. Very little methadone comes through breast milk; the American Academy of Pediatrics (AAP) Committee on Drugs lists methadone as a "maternal medication usually compatible with breastfeeding" (AAP 2001, pp. 780–781).

The Federal government mandates that prenatal care be available for pregnant women on methadone. It is the responsibility of treatment providers to arrange this care. More than ever, there is need for collaboration involving obstetric, pediatric, and substance abuse treatment caregivers. Comprehensive care for the pregnant woman who is opioid dependent must include a combination of methadone maintenance, prenatal care, and substance abuse treatment.

Naloxone should not be given to a pregnant woman as a last resort for severe opioid overdose. Withdrawal can result in spontaneous abortion, premature labor, or stillbirth (Weaver 2003). Propranolol (Inderal), labetalol (Trandate), and metoprolol (Lopressor) are the beta blockers of choice for treating hypertension (high blood pressure) during pregnancy (McElhatton 2001); however the impact of using them for alcohol detoxification during pregnancy is unclear.

For all women of child-bearing age who may be or think they may be pregnant, the physician should discuss the safety of this medication before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting this to their clients.

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