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Psychotherapeutic Medications 2011

What Every Counselor Should Know

- Generic and Brand Medication Names
- Purpose
- Usual Dose and Frequency
- Potential Side Effects
- Emergency Conditions
- Cautions
- Substance Use Disorders Treatment Medications

Addiction Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

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This Publication is available for free download via the Mid-America ATTC Web site at ATTCnetwork.org.

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About this Publication

Originally developed as a companion piece to the Mid-America ATTC systems change curriculum, *A Collaborative Response: Addressing the Needs of Consumers with Co-Occurring Substance Use and Mental Health Disorders*, this edition includes adaptations made for inclusion in CSAT's *TIP 42: Substance Abuse Treatment for Persons with Co-Occurring Disorders*. The language has been modified to increase readability for a larger audience and, in keeping with the goal of updating the publication biannually, several new medications are included.

COUNSELORS' USE OF THIS PUBLICATION

A list of generic and brand names is included for the following medications:

- Antipsychotics/Neuroleptics
- Antiparkinsonian Medications
- Antimanic Medications
- Antidepressant Medications
- Antianxiety Medications
- Stimulant Medications
- Narcotic and Opioid Analgesics
- Hypnotics (Sleep Aids)
- Substance Use Disorders Medications
  - Alcohol
  - Opioids
  - Tobacco
  - Others

Each section includes the following topics for the different medication types:

Purpose: Describes typical uses of medications, including specific symptoms treated and positive treatment response expected.

Usual dose, frequency, and side effects: Discusses when and how medications are administered, typical side effects, and methods for monitoring side effects.

Potential side effects: Lists common side effects.

Potential for abuse or dependence: Elaborates upon those medications with potential for abuse and/or physical dependence. Discusses withdrawal reactions and management of withdrawal.

Emergency Conditions: Includes risks associated with overdose, withdrawal or other drug reactions.

Cautions: Describes risks associated with use of additional medications (i.e., over the counter), increasing or discontinuing use of medications, and adverse consequences with concurrent use of alcohol and/or street drugs.

Special Considerations for Pregnant Women: Describes risks for pregnant women prescribed psychotherapeutic medications. References to research are included. The special role of the substance abuse counselor in encouraging discussion between clients and the prescribing physician is emphasized.

IMPORTANT NOTES ACROSS MEDICATION TYPES

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 medication and never changes*. A generic medication may be made by many different manufacturers. Additionally, manufacturers can make several forms of a single medication with only slight variations. For instance, they may vary the color, size, or shape of the medication. If a person says his or her medication "looks different" AND he or she is experiencing new side effects, *contact the prescriber immediately*.

For ease of reading, some technical terms are defined in accompanying footnotes. All medications are listed in the index along with page numbers for quick reference. When specific brands are discussed in the accompanying text, the name of the medication is **bolded** to assist the reader in finding the reference.

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LIMITATIONS OF THE PUBLICATION

This publication is designed as a quick "desk reference" for substance abuse and mental health treatment providers. It is not intended to be used as a complete reference for psychotherapeutic medications. The section, "Tips for Communicating with Physicians," is meant to be just that: tips for communicating. The publication assumes providers are knowledgeable about the Health Insurance Portability and Accountability Act (HIPAA) regulations, including issues related to privacy and confidentiality and will use these communication tips in accordance with those regulations. For more information about HIPAA, refer to the SAMHSA Web site: "HIPAA: What It Means for Mental Health and Substance Abuse Services" at http://www.hipaa.samhsa.gov/hipaa.html.

The section, "Talking with Clients about their Medication," is a prompt designed to help the provider initiate conversation about medication management and adherence with clients who have co-occurring mental health and substance use disorders. It is not intended as a complete guide to client education. For a more thorough discussion of these co-occurring issues, see the current edition of the American Society of Addiction Medicine's (ASAM's) *Principles of Addiction Medicine*, Third Edition (ASAM 2003).

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 include medication compliance, adverse drug interactions, and relapse with the use of potentially addictive medications, refer to the current edition of the American Society of Addiction Medicine's (ASAM's) *Principles of Addiction Medicine*, Third Edition (ASAM 2003), and CSAT's TIP 42*: Substance Abuse Treatment for Persons with Co-Occurring Disorders* (CSAT 2005).

Antipsychotics/Neuroleptics

GENERIC	BRAND
Traditional antipsychotics	
chlorpromazine	Thorazine
fluphenazine	Prolixin, Permitil, Anatensol, Prolixin Decanoate
haloperidol	Haldol, Haldol Decanoate
loxapine	Loxitane
mesoridazine	Serentil
molindone	Moban
perphenazine	Trilafon, Etrafon
pimozide	Orap
thioridazine	Mellaril
thiothixene	Navane
trifluoperazine	Stelazine
Novel or atypical antipsychotics	
aripiprazole	Abilify, Abilify Discmelt
asenapine	Saphris
clozapine	Clozaril, Fazaclo
iloperidone	Fanapt
olanzapine	Zyprexa, Zyprexa Zydis
paliperidone	Invega, Invega Sustenna
quetiapine	Seroquel, Seroquel XR
risperidone	Risperdal, Risperdal Consta
ziprasidone	Geodon

PURPOSE

Antipsychotics (neuroleptics) are most frequently used for persons who experience psychotic symptoms as a result of having some form of schizophrenia, severe depression or bipolar disorder. They may be used to treat brief psychotic episodes caused by drugs of abuse. 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). Antipsychotic medications can be effective in either minimizing or stopping these symptoms altogether. In some cases, these medications can shorten the course of the illness or prevent it from happening again.

Positive treatment response to antipsychotic medications allows many with severe and disabling mental disorders to live and function in the community, often relatively normally. This positive response may include thoughts that are more rational, decreased psychosis[1], paranoia and delusions, behavior that is more appropriate, and the ability to have relationships and work.

All of the older and newer antipsychotic medications are approved by the Food and Drug Administration (FDA) and are thus evidence-based treatments (EBT) for schizophrenia. The newest antipsychotic medications—**Risperdal, Saphris, Fanapt, Zyprexa, Seroquel, Geodon,** and **Abilify**—show positive effects across a range of disorders. These medications stabilize mood and are also used to treat bipolar disorder. They are being added to antidepressants to treat severe depressions. Some have been shown to be effective at relieving anxiety in low doses, but the FDA does not approve this use. A growing number of the atypical antipsychotic medications have received FDA approval for treatment of manic episodes, and some for extended treatment of bipolar disorder.

USUAL DOSE, FREQUENCY & SIDE EFFECTS

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is 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. Several medications are taken in pill form or liquid form. Others are given by injection once or twice per month to ensure that the medication is taken reliably. It is

[1] *Psychosis*: a mental disorder characterized by distinct distortions of a person's mental capacity, ability to recognize reality, and relationships to others to such a degree that it interferes with that person's ability to function in everyday life.

important to take medications on schedule. It is also important that people talk to their doctor so they know about potential side effects and steps they need to take to monitor their health.

Novel or atypical antipsychotics are different from traditional antipsychotics. These medications are effective in 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[2] or neuroleptic malignant syndrome[3]. The most common mild side effects are either sedation[4] or agitation, especially when starting the medications. The most worrisome side effects are weight gain and elevated blood sugar and lipids[5]. There is also some evidence that the use of atypical antipsychotics may lead to the development of diabetes mellitus[6] (Sernyak et al. 2002). Because diabetes is associated with obesity, it is unclear whether the diabetes is actually caused by certain atypical antipsychotic medications or obesity. These issues can be medically worrisome and can lead to medication noncompliance. Since effectiveness and side effects vary across medications and people, matching the right medication to the right person is the key.

Clozapine can very rarely cause serious abnormalities or irregularities in the blood cells (blood dyscrasias[7]). Approximately 1 to 2 percent of people who take clozapine develop a condition in which their white blood cell count drops drastically (agranulocytosis[8]). As a result, they are at high risk for infections due to a compromised immune system, and this could be fatal. However, most cases of agranulocytosis can be treated successfully by stopping clozapine treatment. To maintain safety, white blood cell counts must be checked each week for 6 months and every 2 weeks thereafter. The results must be sent to the person's pharmacy before he or she can pick up the next supply of medication.

Risperidone and olanzapine came soon after clozapine. Both are strong and predictable antipsychotics. Risperidone may cause involuntary movements, tremors, muscular rigidity, and immobility without paralysis, and at higher doses is moderately sedative. Olanzapine is highly sedative and has more tendency to cause weight gain and other metabolic changes.

Risperidone long-acting injection is an injection of microencapsulated[9] medication that releases into the body at a constant level. An injection is usually given every 2 weeks. Side effects are similar to those for risperidone.

Quetiapine is antipsychotic only in higher doses, but is most used for non-psychotic conditions such as bipolar disorder, depression, and PTSD conditions. It is very sedative and calming at moderate to high doses. In some prison settings, there have been reports of "abuse" of both quetiapine and olanzapine, by prisoners feigning psychotic symptoms in order to obtain heavy sedation.

Ziprasidone and aripiprazole are newer agents and have only moderate sedative and few weight, diabetes, or lipid effects, but their antipsychotic response seems to be less predictable. Ziprasidone has also been linked to a serious heart condition called QTc prolongation. This heart condition can lead to dysrhythmia (an irregular heart rhythm) which needs to be treated quickly to prevent serious complications. The likelihood of this heart condition is low, but should be looked at by the doctor when beginning treatment with Ziprasidone. A doctor should monitor blood work in patients that may be more likely to have a heart condition. A doctor or pharmacist should review

[2] *tardive dyskinesia*: A central nervous system disorder characterized by twitching of the face and tongue, and involuntary motor movements of the trunk and limbs; occurring especially as a side effect of prolonged use of antipsychotic medications.

[3] *neuroleptic malignant syndrome*: A very rare but life-threatening neurological disorder most often caused by a reaction to antipsychotic/neuroleptic medications. Typically developing within the first 2 weeks of treatment; but can develop at any time. The syndrome can also occur in people taking antiparkinsonian medications if discontinued abruptly.

[4] *sedation*: Inducing a relaxed easy state especially by the use of sedatives (drugs).

[5] *lipids*: Any of various substances including fats, waxes, and phosphatides that with proteins and carbohydrates make up the principal structural components of living cells.

[6] *diabetes mellitus*: An endocrine disorder in which insulin is inadequately secreted or used by the body.

[7] *blood dyscrasias*: A disease of the blood usually involving cellular abnormalities (i.e., poorly functioning or fewer than normal platelets, or loss of certain blood proteins called "clotting factors"; poorly functioning or decreased numbers of red and/or white blood cells.

[8] *agranulocytosis*: A condition in which there are too few of a specific type of white blood cell called neutrophils in the blood. Affected people are susceptible to infections.

[9] *microencapsulated*: To ensure in a tiny capsule material (as a medicine) that is released when the capsule is broken, melted, or dissolved.

the medications a patient is taking to check for drug interactions.

Paliperidone and iloperidone are other antipsychotics and they are related to risperidone. Paliperidone metal tablets provide 24 hours of medication for the patient. Paliperidone long-acting injections are also available for patients that are stable on paliperidone. This long acting injection provides an entire month's worth of medication in a single shot and can be useful for patients that don't always remember to take their medications. Patients should be told that the paliperidone metal capsule will pass with their normal bowel function; this should not be a cause for alarm. Iloperidone is given twice a day and has a similar action to paliperidone and risperidone.

Asenapine is the newest atypical antipsychotic available in the United States. It's an orally disintegrating tablet that the patient places on the tongue and the tablet will dissolve.

Traditional antipsychotics are cheap, and the newer ones are expensive. In general, the newer antipsychotics, when taken in proper dosage, have fewer clinical side effects and a broader treatment response than traditional antipsychotics.

POTENTIAL SIDE EFFECTS

Tardive Dyskinesia

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

Symptoms of diabetes mellitus (associated with obesity)

- Excessive thirst and hunger
- Fatigue
- Frequent urination
- Headaches
- Slow healing cuts and/or blemishes
- Weight loss

Neuroleptic Malignant Syndrome (very rare)

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

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 and discussed with the prescribing physician. Anticholinergic antiparkinsonian medications like benztropine or trihexyphenidyl may be prescribed to control movement difficulties associated with the use of antipsychotic medications.

EMERGENCY CONDITIONS

Contact a physician and/or seek emergency medical assistance if the person experiences involuntary muscle movements, painful muscle spasms, difficulty urinating, eye pain, skin rash or any of the symptoms listed above under *tardive dyskinesia*, and *neuroleptic malignant syndrome*. An overdose is always considered an emergency and treatment should be sought immediately.

POTENTIAL FOR ABUSE OR DEPENDENCE

The potential for abuse for antipsychotics as a class is relatively low. There are not much data regarding the abuse of traditional antipsychotics currently. One novel antipsychotic that has had reports of abuse is quetiapine (Seroquel). People who abuse

quetiapine usually crush and "snort" the particles to self-medicate for anxiety and insomnia (Reeves & Brister, 2007). Physical dependence from continued use of these medications across the class is rare. Withdrawal reactions such as involuntary movements that can last two to four weeks after prolonged use of antipsychotics have been reported. In order to manage these withdrawal reactions, a slow tapering off of the antipsychotics (over four to eight weeks) is recommended. Medications such as benztropine, diphenhydramine and trihexyphenidyl can be used during this taper period to lessen the movement's frequency and severity.

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, and ginseng).
- People taking antipsychotic medications 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 childbearing 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 their clients talk with the prescribing physician.

Generally, the use of antipsychotic medications should be avoided in the first trimester unless the mother poses a danger to herself, to others, or to the unborn child, or if the mother shows signs of profound psychosis (Cohen 1989). Tapering and discontinuation of antipsychotic medication 10 days to 2 weeks before delivery is generally advised, though the way this is done varies by medication (Mortola 1989).

Antiparkinsonian Medications

GENERIC	BRAND
Anticholinergic agents	
amantadine	Symmetrel
benztropine	Cogentin
diphenhydramine	Benadryl
trihexyphenidyl	Artane

PURPOSE

Antiparkinsonian (anticholinergic) medications are used to control the side effects associated with antipsychotic medications. They are called antiparkinsonian because the neurological side effects of antipsychotic medications are similar to the symptoms of Parkinson's disease (i.e., tremors, stiff or rigid muscles, poor balance, and a distinctive unsteady walk). The antiparkinsonian medications listed in this section are only those used in the management of the side effects of antipsychotic medications. There are other medications used to treat primary Parkinson's disease that are not discussed in this section because those medications are currently not used for the management of side effects related to antipsychotics. If you would like more information on Parkinson's disease talk with your doctor or pharmacist.

USUAL DOSE & FREQUENCY

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is on the prescription bottle. These medications have very specific doses and taking too much can be harmful. A doctor must be consulted in order to safely change the dose in response to side effects of the antipsychotic medications.

POTENTIAL SIDE EFFECTS

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

EMERGENCY CONDITIONS

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

POTENTIAL FOR ABUSE OR DEPENDENCE

Despite their utility, these medications can be abused by some persons with severe mental illness who require neuroleptics. Survey research has found that many abusers of antiparkinsonians used these medications "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 antiparkinsonian medications. Consequently, in the context of co-occurring mental health and substance use disorders, providers and consumers need to be aware of and openly communicate about the abuse potential of these medications.

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).
- People taking antiparkinsonian medications 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 birth defects associated with benztropine, trihexyphenidyl, and diphenhydramine is not clear, although there is some evidence to suggest that amantadine may produce a deformed baby (Mortola 1989). For all women of childbearing 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 their clients talk with the prescribing physician.

Antimanic Medications

GENERIC	BRAND
Lithium products	
lithium	Eskalith, Eskalith CR, Lithobid,
Anticonvulsant products	
carbamazepine	Tegretol, Carbatrol, Tegretol XR
divalproex sodium	Depakote, Depakote Sprinkle, Depakote ER
lamotrigine	Lamictal
valproic acid	Depakene
Atypical antipsychotics	
(see Antipsychotics/Neuroleptics, p. 5 for side effects)	
aripiprazole	Abilify
asenapine	Saphris
olanzapine	Zyprexa, Zyprexa Zydis
olanzapine plus fluoxetine	Symbyax
quetiapine	Seroquel
risperidone	Risperdal
ziprasidone	Geodon
Other anticonvulsant products (not FDA approved for the treatment of mania)	
gabapentin	Neurontin
levetiracetam	Keppra, Keppra XR
oxcarbazepine	Trileptal
tiagabine	Gabitril
topiramate	Topamax, Topamax Sprinkle

PURPOSE

Antimanic medications are used to control the mood swings of bipolar (manic–depressive) illness. Bipolar illness is characterized by cycling mood changes from severe highs (mania) to severe lows (depression). The "highs" and "lows" vary in intensity, frequency, and severity. Bipolar I conditions include full manic episodes. Bipolar II conditions, by definition do not include full mania, but are characterized more as depression plus a low level of mania (hypomania). Bipolar cycles that occur more often than 3 times a year are considered "rapid cycling," a condition often found in people with higher rates of substance abuse.

Positive treatment responses to antimanic medications include less hyperactivity, pressured speech and/or illogical thought. They improve the clients' ability to sleep, concentrate and allow the person to function more normally.

If bipolar disorder is left untreated, the associated mania may worsen into a psychotic state and depression may result in thoughts of suicide. By leveling mood swings with antimanic medications, some of the suicidal and other self-harming behaviors can be decreased. Additionally, appropriate treatment with antimanic medications can reduce a person's violent outbursts toward others or property.

All of the lithium products, carbamazepine, valproic acid and divalproex sodium, and those products listed under atypical antipsychotics qualify as evidence-based treatments (EBT) for Bipolar I disorder. Lamotrigine qualifies as an EBT for Bipolar II disorder.

USUAL DOSE, FREQUENCY & SIDE EFFECTS

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is provided on the prescription bottle. Most medications in this class are given 2 to 4 times per day. Some extended release formulations[10] may be given every 12 hours. Dosage is determined by the active amount of medication found in the person's blood after taking the medication, and by his or her response to the medication. Certain medications will require a check of monthly blood levels until the person is at his or her optimal dose.

Lithium products: Most common side effects are tremor, acne, and weight gain. People taking these products may require more fluids than they did

[10] *extended release formulations*: Medications that have been made so that they act over a long period of time and do not have to be taken as often; may be referred to as CR (controlled release) or XR / XL (extended release).

before taking the medication. However, too much fluid in a person's diet can "wash" the lithium out of his or her system, and 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) could result in lithium toxicity[11]. People taking any antimanic medications should have blood levels tested regularly to check the concentration level of the medication in their bodies. Specifically, people taking lithium products, carbamazepine and valproic acid and divalproex sodium, need their blood levels monitored for treatment effect and for toxicity.

Anticonvulsant products:[12] Most common side effects are sedation and weight gain. Levetiracetam is noted for causing mood changes, primarily depression and anger in some people. This may limit its use as a mood stabilizer.

For the most common side effects of atypical antipsychotics, refer to *Antipsychotics/ Neuroleptics*, p. 5. It is likely that all of the newer atypical antipsychotics mentioned in the previous section will soon be FDA approved for treatment of mania.

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 cells
- Rash and skin changes
- Seizures
- Under or overactive thyroid*
- Weakness
- Weight gain

*These side effects are associated with lithium, anticonvulsants, and atypical antipsychotics only. Effects vary greatly between persons.

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. An overdose of any of the other antimanic medications is always considered an emergency and treatment should be sought immediately.

POTENTIAL FOR ABUSE OR DEPENDENCE

Abuse of antimanic medications is considered uncommon. There are case reports in the literature that do however show the potential for abuse of lithium. The abuse potential comes from the fact that lithium can produce a "buzz" at high doses. This can be quite dangerous as lithium intoxication can occur with standard treatment doses of lithium and certain food, drink and drug interactions. Anticonvulsant medications are also used in the treatment of mania. Their abuse potential alone is low; however, combining anticonvulsants with alcohol on the other hand can lead to increased drowsiness. Physical dependence has not been associated with lithium or anticonvulsants to date. Patient's that are on lithium may experience manic episodes if lithium is stopped without a taper period. Patients on anticonvulsants should not stop their medications without medical supervision. Abrupt discontinuation of anticonvulsants may result in seizures. Slow tapering off periods (two to four weeks depending on the drug) are recommended to slow or prevent the withdrawal effects described. For patients with active seizures after sudden withdrawal of anticonvulsants, benzodiazepines like diazepam and lorazepam may be used to treat the immediate seizure.

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).

[11] *lithium toxicity*: The quality, state, or relative degree of being poisonous, in this instance because of the presence or concentration of too much of the drug lithium in the blood.

[12] *anticonvulsants*: Usually refers to an agent that prevents or stops *convulsions*; an abnormal violent, involuntary contraction or series of contractions in the muscles.

- People taking antimanic medications should not increase their dose unless this has been checked with their physician and a change is ordered.
- Persons taking antimanic medications are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or street 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 (i.e., coffee, tea, some high caffeine sodas, use of diuretics) can lower the level of lithium in the blood.
- Blood tests for medication levels need to be checked every 1 to 2 months.
- Use of these medications will lower the effectiveness of birth control medications.

SPECIAL CONSIDERATIONS FOR PREGNANT WOMEN

Some antimanic medications, such as valproic acid, are associated with several birth defects 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 medication that may be harmful to an unborn child. Those exposed to lithium before week 12 of gestation are at increased risk of heart abnormalities. For women taking lithium, blood levels of the medication should be monitored every 2 weeks. Ultrasound examinations should be performed on the fetus to rule out the development of an enlarged thyroid (goiter) in the unborn child (Mortola 1989).

Generally, the use of antipsychotic medications should be avoided in the first trimester unless the mother poses a danger to herself, to others, or to the unborn child, or if the mother shows signs of profound psychosis (Cohen 1989). Tapering and discontinuation of antipsychotic medication 10 days to 2 weeks before delivery is generally advised, though the way this is done varies by medication (Mortola 1989).

For women of childbearing age who may be or think they may be pregnant, the physician should discuss the safety of these medications before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting their clients talk with the prescribing physician.

Antidepressant Medications

GENERIC	BRAND
SSRIs — Selective Serotonin Reuptake Inhibitors	
citalopram	Celexa
escitalopram	Lexapro
fluoxetine	Prozac, Prozac Weekly, Sarafem
fluvoxamine	Luvox
paroxetine	Paxil, Paxil CR
sertraline	Zoloft
Other new antidepressants	
bupropion	Wellbutrin, Wellbutrin SR, Wellbutrin XL
desvenlafaxine	Pristiq
duloxetine	Cymbalta
mirtazapine	Remeron, Remeron SolTab
nefazodone	Serzone
trazodone	Desyrel
venlafaxine	Effexor, Effexor ER
Tricyclics & quatracyclics	
amitriptyline	Elavil
amoxapine	Asendin
clomipramine	Anafranil
desipramine	Nopramin
doxepin	Sinequan
imipramine	Tofranil
maprotiline	Ludiomil
nortriptyline	Aventyl, Pamelor
protriptyline	Vivactil
Monoamine Oxidase (MAO) Inhibitors	
isocarboxazid	Marplan
phenelzine	Nardil
tranylcypromine	Parnate

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. Antidepressants are also the first line medications for certain anxiety disorders such as panic disorder, social phobia, and obsessive-compulsive disorders.

Positive early treatment responses to antidepressant medications include improved energy, concentration, and sleep. Later positive treatment responses include improved mood, attitude, and statements of "feeling better."

Treatment for a single episode of major depression should be continued for 2 years before discontinuing. Since major depression is a chronic recurrent illness for many people, long-term use of antidepressants is often indicated (much as one would take medication for high blood pressure or diabetes for a long period of time). Discontinuing antidepressant therapy before the depression is completely resolved may result in the person decompensating[13] and possibly becoming medication resistant. Untreated depression may result in suicide, especially with co-occurring substance use disorders. Therefore, treatment for depression must be taken as seriously as treatment for any other major life-threatening illness.

TYPES OF ANTIDEPRESSANTS

SSRIs are the most frequently prescribed class of antidepressants because of their broad effectiveness, low side effects, and safety. They are thought to affect the serotonin[14] system to reduce symptoms of depression. The extended release formula of fluoxetine (**Prozac Weekly**) can be dosed once per week. **Sarafem** is fluoxetine under another label used for treatment of Premenstrual Dysphoric Disorder. SSRIs include both less expensive generic medications (citalopram, fluoxetine, fluvoxamine, paroxetine, sertraline) and more expensive brand name only versions (escitalopram).

[13] *decompensate*: Loss of the body's ability to correct a defect by over development of or increased functioning of another organ or unimpaired parts of the same organ; loss of psychological ability to counterbalance feelings of inferiority, frustration, or failure in one area by achievement in another.

[14] *serotonin*: A type of neurotransmitter in the brain.

Other new antidepressants, such as venlafaxine work on both the serotonin and norepinephrine[15] levels. Bupropion 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). It is not associated with weight gain or sexual dysfunction like many other antidepressant medications. Bupropion should be avoided by people who are at risk for or who currently have a seizure disorder since it can increase the possibility of having a seizure.

The MAO inhibitors and the tricyclic and quatracyclic antidepressants (named for their chemical structures) are older and less commonly used due to safety and side effects. MAOs are used for "atypical depressions," which produce symptoms like oversleeping, anxiety or panic attacks, and phobias. Also, they may be used when a person does not respond to other antidepressants. The older tricyclics may be preferred in spite of their common side effects because they are inexpensive. MAO inhibitors should not be stopped without medical supervision. MAO inhibitors have many drug and food interactions that can last up to 14 days after stopping them.

USUAL DOSE, FREQUENCY & SIDE EFFECTS

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is provided on the prescription bottle. Several factors are considered before an antidepressant is prescribed: the type of medication, the person's individual body chemistry, weight, and age. Generally, people are started on a low dose, and the dosage is slowly raised until the optimal effects are reached without troublesome side effects.

Both mild sedation and mild agitation sometimes occur with SSRI use. The most troubling SSRI side effect is decreased sexual performance, which may be difficult for many persons to discuss. Common side effects specific to both bupropion and venlafaxine include sleeplessness and agitation. For the older tricyclics, side effects include dry mouth and sedation.

[15] *norepinephrine*: A hormone secreted by the adrenal gland, which (together with epinephrine) brings about changes in the body known as the "fight or flight" reaction. It works as a neurotransmitter in the brain.

POTENTIAL SIDE EFFECTS

SSRIs

- Anxiety, agitation or nervousness
- Change in appetite (lack of or increase)
- 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 (bupropion)
- Weight loss or gain

Tricyclics & 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[16]
- Increased sweating
- Kidney failure (amoxapine)
- Muscle twitches
- Neuroleptic Malignant Syndrome (amoxapine)
- Seizures (bupropion)
- Stroke
- Weakness
- Weight gain

[16] *heart block:* A condition where the heart beats irregularly or much more slowly than normal. Sometimes the heart may even stop for up to 20 seconds; caused by a delay or disruption of the electrical signals that usually control the heartbeat.

MAO Inhibitors

- Blood cell problems (both white and red cells)
- Dizziness when changing position
- Fluid retention (swollen ankles, feet, legs or hands)
- Headache
- High blood pressure crisis[17]
- Insomnia
- Lack of appetite
- Rapid heart beat

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*. 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.

The potential for a fatal outcome from an overdose with the SSRIs is much less. However, the possibility that a person has attempted suicide should be dealt with as an emergency situation that needs immediate intervention.

POTENTIAL FOR ABUSE OR DEPENDENCE

A review conducted in 1998 determined that based on diagnostic end points, antidepressants as a class are not drugs of abuse (Lichtigfeld & Gillman, 1998). Nor do the agents cause physical dependence. Withdrawal reactions have been reported with both the traditional (tricyclic and tetracyclic agents) and the novel (selective serotonin and norepinephrine reuptake inhibitors) antidepressants. Withdrawal symptoms of the all the antidepressants can include: insomnia, anxiety, dizziness, upset stomach and headache. MAO inhibitor withdrawal can cause these symptoms in addition to muscle twitches, aggression, hallucinations and delirium. Slow gradual tapering off for all the antidepressants is recommended. While there is no defined taper schedule, tricyclic agents and MAO inhibitors should be tapered gradually over one to three months. For management of the tricyclic antidepressant withdrawal, benztropine has been used with some success (Warner, Bobo, Warner, Reid & Rachal, 2006).

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).
- People taking antidepressant medications 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. Discontinuing antidepressant therapy should be done gradually under a physician's care.
- People taking MAO inhibitors must avoid all foods with high levels of tryptophan or tyramine (e.g., 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 medications interact with the MAO inhibitors. It is largely for this reason that they are rarely used. Other medications should not be taken unless the treating physician approves them. Even a simple over-the-counter cold medication can cause life-threatening side effects.
- People using MAO inhibitors should check all new medications with a physician or pharmacist before taking them.
- People taking antidepressant medications are particularly vulnerable to adverse medical consequences if they concurrently use alcohol and/or street drugs.
- If there is little to no change in symptoms after 3 to 4 weeks, talk to the doctor about raising the dose or changing the antidepressant.
- Treatment with antidepressants usually lasts a minimum of 9 to 12 months. Many patients are on long-term antidepressant therapy to avoid the frequency and severity of depressive episodes.

[17] *high blood pressure crisis*: A severe increase in blood pressure that can lead to stroke. Two types-emergency and urgent-require immediate medical attention.

SPECIAL CONSIDERATION FOR PREGNANT WOMEN

Using SSRIs is safer for the mother and fetus than using tricyclic antidepressants. Fluoxetine is the most studied SSRI in pregnancy and no increased incidence in birth defects has been noted, nor were developmental abnormalities of the nervous system observed in preschool-age children (Garbis and McElhatton 2001). However, possible withdrawal signs have been observed in the newborn. Fluoxetine is the recommended SSRI for use during pregnancy (Garbis and McElhatton 2001). MAO Inhibitor use is not advised 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 antidepressant medications before starting, continuing, or discontinuing medication treatment with all women of childbearing 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	BRAND

See also SSRI Antidepressants (p. 13)

Benzodiazepines	
alprazolam	Xanax, Xanax XR, Niravam
chlordiazepoxide	Librium
clonazepam	Klonopin, Klonopin Wafers
clorazepate	Tranxene
diazepam	Valium
lorazepam	Ativan
oxazepam	Serax

Beta-blockers	
propranolol	Inderal

Other	
buspirone	BuSpar
gabapentin	Neurontin
hydroxyzine	Atarax, Vistaril
olanzapine	Zyprexa
pregabalin	Lyrica
quetiapine	Seroquel
risperidone	Risperdal
tiagabine	Gabitril

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 (PTSD), panic, phobias, and obsessive-compulsive disorders (OCD). The most common antianxiety medications are the antidepressants and the benzodiazepines. Positive treatment response to antianxiety medications varies a great deal by medication class.

SSRI antidepressants have become first line medications for the treatment of panic, social phobia, obsessive-compulsive disorders (in higher doses) and, more recently, generalized anxiety disorder. Positive treatment response to antidepressant medications includes a gradual reduction in anxiety, panic, and PTSD or OCD symptoms over weeks to months.

Benzodiazepines have a depressant effect on the central nervous system. Positive treatment response to benzodiazepines occurs rapidly, within days. However, especially among persons with co-occurring substance use disorders, the response may be short-lived and tolerance develops leading to the need for increased doses. Additionally, benzodiazepines are cross tolerant[18] with alcohol and have a market as street drugs. For these reasons, most physicians only use them for a short time as alcohol withdrawal medicines, or as sedatives in acute[19] psychotic or manic episodes. If used in outpatient settings, careful monitoring for tolerance and abuse is needed.

Beta-blockers work on the central nervous system to reduce the flight or fight response. Propranolol occasionally prescribed for performance anxiety, is not addictive.

Niravam (alprazolam) and **Klonopin wafers** (clonazepam) use an oral disintegrating tablet to make the active ingredients faster acting. By dissolving under the tongue, the medication will work much faster (within 15 minutes) than standard tablets that can take up to 30 minutes or longer to work.

Buspirone works through the serotonin system to induce calm. It takes 3 to 4 weeks for buspirone to reach adequate levels in the brain to successfully combat anxiety. Hydroxyzine is an antihistamine that uses the drowsiness side effect of the antihistamine group to calm and relax. Hydroxyzine works within an hour of being taken. Buspirone and hydroxyzine do not lead to physical or psychological dependence or a substance use disorder.

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[18] *cross tolerant*: Refers to a drug that produces a similar effect as the misused substance but does not produce the "high." Withdrawal symptoms can be minimized through use of *cross-tolerant* substances (i.e., alcohol withdrawal symptoms can be minimized through use of *cross-tolerant* sedatives, like benzodiazepines).

[19] *acute*: Marked by sharpness of severity (an *acute* pain). Having a sudden onset and short duration (*acute* disease). Urgent or critical condition.

Low doses of risperidone, quetiapine, olanzapine or other atypical antipsychotics are sometimes used "off label" as non-addictive antianxiety medications. They are usually used when several other medications have failed (though use of atypical antipsychotics is expensive and not FDA approved for treatment of anxiety disorders). Their special formulation works to reduce anxiety and help the person think more clearly, though the mechanism for this is unclear.

Gabapentin, tiagabine, and pregabalin have all been used to treat anxiety (off label) especially in those persons with a substance use disorder history and for whom antidepressants have been effective. These agents are all mildly sedative, and do not cause a high dependence, or withdrawal. They are thought to enhance the effects of the body's own naturally produced calmative agent, gamma aminobutyric acid (GABA)[20]. None are FDA approved for treatment of anxiety disorders.

USUAL DOSE, FREQUENCY & SIDE EFFECTS

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is provided on the prescription bottle. Usually, people are started on a low dose of medication, which is raised gradually 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.

People taking benzodiazepines for longer than 4 to 8 weeks may develop physical tolerance to the medication. Benzodiazepines have a relatively low potential for abuse in those without substance use disorder histories, but moderate or higher potential in those with substance use disorder histories. Even when taken as directed, withdrawal symptoms may occur 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. Except for treating alcohol or benzodiazepine withdrawal, or for acute sedation in manic or psychotic states, benzodiazepines are not recommended for most people 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 high blood pressure, thus side effects might be low blood pressure or dizziness. Beta-blockers may enhance the effects of other psychotropic medications and are inexpensive. Propranolol is taken as needed for performance anxiety. It is taken on a regularly scheduled basis for treatment of high blood pressure and other heart conditions.

Buspirone is often used to control mild anxiety and is considered safe for long-term therapy.

Hydroxyzine is a safe and non habit forming medication used to reduce anxiety. It is inexpensive and may be used for longer-term therapy. Common side effects are dry mouth and sedation. A less common side effect is urinary retention in older men; this is a serious condition.

POTENTIAL SIDE EFFECTS

- Blood cell irregularities
- Constipation
- Depression
- Drowsiness or lightheadedness
- Dry mouth
- Fatigue
- Heart collapse (weakened heart muscles)
- Loss of coordination
- Memory impairment (propranolol)
- Mental slowing or confusion
- Slowed heart beat (diazepam)
- Stomach upset
- Suppressed breathing (restrained or inhibited)
- Weight gain

POTENTIAL FOR ABUSE OR DEPENDENCE

Between 11 and 15 percent of people in the U.S. take a form of antianxiety medication—including benzodiazepines—at least once each year. 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

[20] *gamma aminobutyric acid (GABA)*: A type of neurotransmitter in the brain.

physically dependent on benzodiazepines does not necessarily mean a person will become psychologically dependent or addicted to the medication. Most people can be gradually withdrawn from the medication—when indicated—and will not develop psychological dependence.

In general, abuse and dependence occur at lower rates with long-acting antianxiety medications (e.g., clonazepam, oxazepam and clorazepate). Abuse and dependence are more likely to occur with faster-acting, high-potency antianxiety medications (e.g., alprazolam and lorazepam).

Risk Factors Related to Developing Dependency on Antianxiety Medication:

Less than 1% of persons *who do not have a current substance abuse problem or a history of substance abuse* becomes dependent on antianxiety medications. These people are at ***little or no risk***. They are more likely to skip doses, take lower doses than prescribed, or decrease their dose over time.

People with a prior history of substance abuse or dependence who are in recovery are at increased risk of becoming dependent on antianxiety medications. These people are at ***moderate risk***.

Those with a history of abusing antianxiety medications or those who are opiate users are at ***higher risk*** of becoming dependent on antianxiety medications. Some studies indicate there is a moderately higher risk for alcohol dependent persons to become dependent on antianxiety medications.

EMERGENCY CONDITIONS

Benzodiazepines do not cause respiratory depression (slower than normal breathing). When these medications are combined with other sedative medications (phenobarbital or opioids) or combined with alcohol, the sedation is much greater. Under these conditions respiratory depression, which is a life threatening medical emergency, can occur. Overdose on the older tricyclic antidepressant medications, which are often used for combined anxiety depression disorders, can be life threatening and immediate referral to emergency care is indicated.

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 medications can cause hallucinations, delusions and delirium, disorientation, difficulty breathing, hyperactivity, and grand mal seizures. A protocol for decreasing or tapering off doses of benzodiazepines is needed.

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).
- People taking antianxiety medications should not increase their dose unless this has *been checked with their physician and a change is ordered*.
- People should not stop using 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 street drugs.
- Using alcohol in combination with benzodiazepines may result in breathing failure and sudden death.
- Propranolol occasionally prescribed for performance anxiety, will lower your pulse (heart rate) and can lead to fatigue (tired feeling) with continued use. Certain medications and medical conditions can be impacted by propranolol. Be sure to keep the doctor and pharmacists aware of all medications and medical conditions a client may have.

SPECIAL CONSIDERATIONS FOR PREGNANT WOMEN

The current state of knowledge suggests that benzodiazepine therapy in general does not pose as much risk of producing a deformed baby as compared to anticonvulsants (e.g., valproic acid) as long as they are given over a short time period. It appears that short-acting benzodiazepines, like those used to treat alcohol withdrawal (detoxification[21]), can be used in low doses 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). For use of the SSRIs in pregnancy, see page 16.

[21] *detoxification*: A medical and biopsychosocial procedure that assists a person who is dependent on one or more substance to withdraw from dependence on all substances of abuse.

During pregnancy, the capacity of many drugs to bind to proteins[22] is decreased, including diazepam (a benzodiazepine) and methadone (Adams and Wacher 1968; Dean et al. 1980; Ganrot 1972) with the greatest decrease noted during the third trimester (Perucca and Crema 1982). From a clinical standpoint, pregnant women could be at risk for developing greater toxicity[23] and side effects to these medications. Yet at the same time, increased metabolism of the medication may result, reducing the therapeutic effect (such as with methadone since many women seem to require an increase in their dose of methadone during the last trimester) (Pond et al. 1985). In addition, there is a documented withdrawal syndrome in newborns exposed to benzodiazepines in utero (Sutton and Hinderliter 1990). Onset of this syndrome may be delayed more so than that associated with other drugs.

For all women of childbearing 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 their clients talk with the prescribing physician.

[22] *protein binding*: The affinity of a drug to attach (*bind*) to blood plasma proteins. The extent to which a drug is *bound* to plasma can affect the distribution of the drug in the body. In most cases, binding to plasma proteins is reversible.

[23] *toxicity*: Poisonous nature; poisonous quality.

Stimulant Medications

GENERIC	BRAND
armodafinil	Nuvigil
d-amphetamine	Dexedrine, Dextrostat
dexmethylphenidate	Focalin
l & d-amphetamine	Adderall, Adderall XR
methamphetamine	Desoxyn
methylphenidate	Ritalin, Ritalin SR, Ritalin LA, Concerta, Metadate ER, Metadate CD, Methylin ER, Daytrana
modafinil	Provigil

Non-stimulants for AD/HD[24]

atomoxetine	Strattera
bupropion	Wellbutrin, Wellbutrin SR, Wellbutrin XL
guanfacine	Tenex, Intuniv

PURPOSE

Stimulant medications are used to treat attention deficit/hyperactivity disorder (AD/HD), which is typically diagnosed in childhood but also occurs in adults. Symptoms consistent with AD/HD include short attention span, excessive activity (hyperactivity), impulsivity, and emotional development below the level expected for the person'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[25], obesity, and sometimes depression.

Positive treatment responses to stimulant medications include increased attention, focus and/or ability to stay on task, less hyperactivity, and moderation of impulsive behavior. People with AD/HD generally report that they feel "normal" when taking stimulants.

Non-stimulant medications for AD/HD differ somewhat. Atomoxetine blocks the reuptake of norepinephrine, which helps reduce the symptoms of AD/HD. Guanfacine and bupropion 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, and do not cause a "high" even in larger doses. Atomoxetine is FDA approved. While studies have shown bupropion to be effective, it is not FDA approved.

USUAL DOSE, FREQUENCY & SIDE EFFECTS

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is provided 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 of these medications are expensive, but others are generic and quite inexpensive.

POTENTIAL SIDE EFFECTS

Stimulants

- Blood disorders (methylphenidate)
- Change in heart rhythm
- Delayed growth
- Dilated pupils
- Elevated blood pressure
- Euphoria
- Excitability
- Increased pulse rate
- Insomnia
- Irritability
- Loss of appetite
- Rash
- Seizures (methylphenidate)
- Tremor

Non-stimulants for AD/HD

Atomoxetine side effects include:

- High blood pressure

[24] *AD/HD*: Refers to two types of disorders. Attention deficit disorder without hyperactivity (**ADD**), and attention deficit disorder with hyperactivity (**ADHD**). The terms are often used interchangeably.

[25] *narcolepsy*: A condition characterized by brief attacks of deep sleep.

• Nervousness, and side effects similar to some antidepressants

Bupropion side effects include:

• Increased chance of seizure activity

Guanfacine side effects include:

• Constipation
• Dizziness
• Dry mouth
• Low blood pressure
• Sleepiness

POTENTIAL FOR ABUSE OR DEPENDENCE

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, however, rarely abuse or become dependent on stimulant medications unless they have other substance use problems. Most doctors use antidepressants or atomoxetine (both non-stimulants) to treat AD/HD in adults with co-occurring substance use disorders. Using stimulant medications to treat AD/HD in children has been shown to reduce the potential development of substance use disorders.

EMERGENCY CONDITIONS

Psychiatric symptoms including paranoid delusions, thought disorders, and hallucinations have been reported when stimulants are used for long periods or 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 and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).
• People taking stimulant medications 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 street 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[26].

SPECIAL CONSIDERATIONS FOR PREGNANT WOMEN

For women of childbearing 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 their clients talk with the prescribing physician.

[26] *Schedule II drugs*: Drugs classified in *Schedule II* of the Controlled Substances Act; have a high potential for abuse with severe liability to cause psychic or physical dependence, but have some approved medical use.

Narcotic and Opioid Analgesics

Natural opioids

Opium, morphine and codeine products

Pure, semi or totally synthetic derivatives

Hydrocodone, methadone, oxycodone and others

GENERIC	BRAND
buprenorphine	Butrans, Subutex
butorphanol	Stadol nasal spray
codeine	Codeine
fentanyl	Duragesic, Fentora, Actiq, Onsolis, Ionsys
hypromorphone	Dilaudid, Exalgo
levorphanol	Levo-Dromoran
meperidine	Demerol
methadone	Dolophine, Methadose
morphine	Kadian, MS Contin, MS IR, Oramorph, Roxanol
oxycodone	Roxicodone, Oxycontin, Oxyfast
oxymorphone	Opana, Opana ER
pentazocine	Talwin
propoxyphene	Darvon
tramadol	Ultram

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.

Anexsia 5/500
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
Fioricet with Codeine
Fiorinal with Codeine
Lorcet Plus
Lortab
Maxidone
Percocet
Percodan
Roxicet
Roxicet oral solution (contains alcohol)
Roxiprin
Talacen
Talwin Compound
Tylenol with Codeine
Tylenol with Codeine syrup (contains alcohol)
Tylox
Vicodin
Vicodin ES
Zydone

The following products use a combination of an opioid or narcotic along with an opioid antagonist which blocks the "high" that opioids can have. They are designed to prevent abuse of the opioid but still provide pain relief when used as prescribed.

Acurox
Embeda
Oxytrex
Suboxone

PURPOSE

Opiate medications are commonly used to control moderate to severe acute pain. They are typically used for a short time because they cause physiological tolerance (takes more to get the same analgesic effect) and physical dependence (get withdrawal symptoms if abruptly stopped) as amount and duration of doses increase. Longer-term use is indicated to alleviate the chronic pain associated with cancer and certain other conditions, and research has shown that abuse of these medications rarely occurs in such patients. Severe and chronic pain has long been under treated in the United States due to irrational fears that anyone prescribed opiates will become addicted. This has clearly been shown to be not the case. People with substance use disorders need pain management just like anyone else. Opioids are appropriately prescribed to manage chronic cancer pain—especially fentanyl, oxycodone and methadone.

Methadone is a synthetic opioid used in heroin detoxification treatment programs to maintain

sobriety from heroin use disorders. Many people who have been addicted to heroin have returned to a productive life because of methadone treatment. Methadone is also frequently used to provide relief for specific types of pain, especially in pain clinics. The management of chronic pain in a person who has been opiate abusing and dependent is one of the most challenging tasks in medicine.

Heroin is a drug of abuse.

USUAL DOSE & FREQUENCY

All narcotic and opioid analgesics have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is provided on the prescription bottle. Many narcotic or opioid medications are taken two or more times a day. Some medications are taken in pill or liquid form. A few are taken in a nasal spray or as topical patches on the skin. Injectable narcotics are not listed here because they are not often used outside a hospital setting.

POTENTIAL SIDE EFFECTS

- Constipation
- Decreased ability to see clearly
- Decreased ability to think clearly
- Flushing and sweating
- Itching
- Pupil constriction
- Respiratory depression (slowed breathing rate)
- Stomach upset
- Tolerance

POTENTIAL FOR ABUSE OR DEPENDENCE

With narcotic and opioid medications, there is a potential for the development of tolerance and dependence as well as the possibility of abuse and severe withdrawal reactions. There are many non-addictive pain medications available for pain management that can be used after acute pain is reduced.

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.

An overdose is always considered an emergency and treatment should be sought immediately.

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).
- People taking narcotic and opioid analgesics 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 street drugs, because alcohol and street drugs can increase the sedation effects of the opioids.
- Potential for development of tolerance and dependence exists.

SPECIAL CONSIDERATIONS FOR PREGNANT WOMEN

For all women of childbearing 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. This dependence as well as possible withdrawal syndromes needs to be assessed. Substance abuse counselors may have a role in encouraging this discussion by suggesting their clients talk with the prescribing physician. See p. 33 for information about methadone use during pregnancy.

Hypnotics (Sleep Aids)

GENERIC	BRAND
Barbiturates	
secobarbital	Seconal
Benzodiazepines	
clonazepam	Klonopin
diazepam	Valium
estazolam	ProSom
flurazepam	Dalmane
lorazepam	Ativan
oxazepam	Serax
quazepam	Doral
temazepam	Restoril
triazolam	Halcion
Non-benzodiazepines	
anticonvulsants	Neurontin*, Depakote*, Topamax*
ramelteon	Rozerem
sedating antidepressants	Desyrel, Remeron, Serzone, Sinequan
sedating antipsychotics	Seroquel*, Zyprexa*, Zyprexa Zydis*
zaleplon	Sonata
zolpidem	Ambien

*Use of these medications for sleep aid is "off-label."

PURPOSE

Hypnotics are used to help people with sleep disturbances get restful sleep. Lack of sleep is one of the greatest problems faced by those with chemical dependency and psychiatric illnesses. 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, like barbiturates, cause the body to slow down and "pass out" or sleep. However, they also have a tendency to disturb sleep cycles. For this reason, and because of their potential for abuse and dependence, barbiturates are now rarely used.

Benzodiazepines enhance the body's natural calming agents, which induces sleep. Non-benzodiazepines such as zolpidem and zaleplon affect one of the body's receptors for the natural calming agent, GABA. These medications are short acting and do not disturb sleep-staging cycles. Rebound insomnia is a side effect of both, however, if the medications are used for more than two weeks and then abruptly stopped. Ramelteon works with the melatonin[27] pathways in the brain to help you fall asleep. It is non habit forming and can be taken long term for chronic insomnia.

Sedating antidepressants 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. Sedating antipsychotics use their calming and sedation side effects to induce sleep but have the capacity to produce all the side effects of atypical antipsychotics. Anticonvulsants may be used for sedation when treating acute or prolonged withdrawal symptoms from alcohol.

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

USUAL DOSE & FREQUENCY

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken. This information is provided on the prescription bottle. All of these medications are generally used for limited periods (3 to 4 days for barbiturates or up

[27] *melatonin*: A type of neurotransmitter in the brain.

to a month for others). All of these medications quickly develop tolerance and eventually the usual dose will no longer help the person sleep.

POTENTIAL SIDE EFFECTS

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

POTENTIAL FOR ABUSE OR DEPENDENCE

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. There are many drawbacks to long-term use of hypnotics such as damaged sleep staging and substance use disorders. Even zolpidem and zaleplon if taken for longer than 7 to 14 days, can have a discontinuation rebound insomnia effect. Non habit forming medications are available to treat insomnia.

EMERGENCY CONDITIONS

Overdose with any of these medications can be life threatening. Seek help immediately.

Combinations of alcohol and barbiturates or alcohol and benzodiazepines can be deadly.

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).
- People taking hypnotic medications 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 street drugs.
- There is potential for development of tolerance and dependence with accompanying withdrawal. Potential for abuse and misuse is high.

SPECIAL INSTRUCTIONS FOR PREGNANT WOMEN

Barbiturate use during pregnancy has been studied to some extent, but the risk of taking this medication should be discussed with the client (Robert et al. 2001). There also are reports of a withdrawal syndrome in newborns following prenatal exposure to some barbiturates (Kuhnz et al. 1988). For all women of childbearing 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 their clients talk with the prescribing physician.

ALCOHOL

GENERIC	BRAND
*Alcohol withdrawal agents**	
benzodiazepines (e.g., diazepam and lorazepam)	Valium and Ativan
anticonvulsants (e.g., carbamazepine, divalproex sodium, gabapentin)	Tegretol, Depakote, Neurontin
barbiturates (e.g., secobarbital)	Seconal

*For more information on benzodiazepines, anticonvulsants and barbiturates see Antimanic Medications, Antianxiety Medications and Hypnotics sections in this publication.

Alcohol relapse prevention agents	
disulfiram	Antabuse
naltrexone	ReVia
naltrexone extended-release injection	Vivitrol
acamprosate	Campral
topiramate	Topamax

PURPOSE

Medications involved in alcohol treatment include those used for acute alcohol withdrawal as well as a growing number used for alcohol relapse prevention. Alcohol relapse prevention medications are just starting to be accepted in the field. It is anticipated that within the next few years, medications like naltrexone and acamprosate will be more widely used given the developing body of research indicating that these medications work.

Alcohol withdrawal: Though usually only treated for 1 to 5 days, signs and symptoms of alcohol withdrawal go on for weeks or months. Signs and symptoms especially include sleep disorder, anxiety, agitation, and craving alcohol, knowing that a few drinks may temporarily make the alcoholic with "protracted withdrawal" feel more normal.

Benzodiazepines are by far the most commonly used medications for acute withdrawal. If used longer than a few days, they induce tolerance and dependence. Anticonvulsants such as carbamazepine, divalproex sodium, and gabapentin are more commonly used in Europe. The advantage in using these medications is that they can be prescribed for weeks and months versus only days. A well-designed U.S. study (Malcolm et al. 2002) demonstrated that carbamazepine is superior to lorazepam, a commonly used benzodiazepine, in treating alcohol withdrawal. Propranolol, a beta-blocker, is sometimes used in alcohol withdrawal treatment along with either benzodiazepines or anticonvulsants to decrease anxiety, heart rate, sweating, and blood pressure. Antipsychotics may be used if the person develops severe alcohol withdrawal with hallucinations.

Alcohol relapse prevention: The oldest medication used in alcohol relapse prevention is disulfiram. It has been used for over 50 years. Disulfiram blocks the breakdown of alcohol, resulting in toxic acetaldehyde[28] levels in the body. This in turn leads to severe nausea and vomiting. Research indicates disulfiram works better than placebo only in persons motivated enough to take it regularly, or in those that receive it in a "monitored" fashion 3 to 5 times per week. It works by causing the person to rethink a move to impulsive drinking, since they know if they have disulfiram on board, they will get sick.

Naltrexone was first developed as an opioid receptor blocker and used in monitored treatment programs for opioid dependence. Many opioid addicts, however, stopped taking it and returned to opioid use or they preferred methadone maintenance therapy. In spite of this, clinical observation of persons taking naltrexone showed that those who also used alcohol seemed to drink less and reported that alcohol use affected them less.

[28] *acetaldehyde*: A chemical compound produced when the body metabolizes alcohol; the liver enzyme, alcohol dehydrogenase, converts ethanol into *acetaldehyde*, which is then further converted into the harmless acetic acid by *acetaldehyde* dehydrogenase.

Subsequent controlled, clinical trials comparing use of naltrexone to placebo condition have shown its effectiveness over placebo to decrease alcohol craving and relapse potential. Research with community populations (where persons are not monitored as closely for medication adherence) has not supported its effectiveness over a placebo condition to promote abstinence.

A long-acting injectable form of naltrexone is now available. Use of this monthly treatment with even those persons who are less motivated about their recovery has led to a reduction in days drinking; and when drinking does occur, they consume less alcohol. Thus, naltrexone may be best seen as a "harm reduction" medicine versus a "complete abstinence" treatment enhancer.

Naltrexone is nonpsychoactive[29] and as an opioid receptor blocker, it can interfere with the use of opioids for treatment of acute pain. For more information on Naltrexone, see TIP 28*: Naltrexone and Alcoholism Treatment* (CSAT 1998).

Acamprosate was FDA approved in early 2005. It has been available in Europe and other countries for over 10 years. Acamprosate appears to work through the GABA system and holds promise for alcohol craving and preventing relapse through a method different than naltrexone. It is reported to be nonpsychoactive, does not interact with most other medications, and does not cause any kind of tolerance or withdrawal symptoms even if the person uses alcohol when taking the medication.

Unlike the injectable naltrexone, acamprosate does not appear to be effective in persons who are less than moderately motivated to abstain from alcohol use. Because of the way the medication is absorbed in the body, it must be taken several times a day. Outcome studies indicate that acamprosate is best at increasing complete abstinence from alcohol, or increasing the time before the first drink (relapse). The profile of the person for whom acamprosate would be selected is one seeking complete abstinence and who is moderately to highly motivated to abstain from alcohol use.

Topiramate is an anticonvulsant that at higher doses can cause sedation and confusion. Johnson et. al (2007) studied the use of topiramate with an enhancement intervention compared to placebo with patients who drank heavily. The study found that 300 mg of topiramate daily was significantly better than placebo regarding decrease in percentage of heavy drinking days.

[29] *psychoactive*: Substances or drugs that affect the mind, especially mood, thought, or perception.

OPIOIDS

GENERIC	BRAND
Opioid withdrawal agents	
buprenorphine	Butrans, Subutex
buprenorphine and naloxone	Suboxone
clonidine	Catapres
methadone	Dolophine, Methadose
naltrexone	ReVia
naltrexone extended-release injection	Vivitrol
Opioid maintenance agents	
buprenorphine	Butrans, Subutex
buprenorphine and naloxone	Suboxone
methadone	Dolophine, Methadose

PURPOSE

Medications for opioid withdrawal and maintenance are a key component in the stabilization of persons addicted to opiates. These medications have shown marked ability to decrease illness, crime, and deaths in this population. Methadone maintenance treatment is extensively researched. See TIP 19: *Detoxification from Alcohol and Other Drugs* (CSAT 1995) and TIP 20*: Matching Treatment to Patient Needs in Opioid Substitution Therapy* (CSAT 1995).

Opioid withdrawal: Mild opioid withdrawal can be accomplished with clonidine, a medication for treatment of high blood pressure. Usually clonidine is used in combination with sedatives such as benzodiazepines, antihistamines or even phenobarbital. Major opioid withdrawal is usually treated with either an equivalent dose of methadone gradually decreased over time, or more recently, a single dose of 24 mg of buprenorphine. In pilot studies, buprenorphine appears superior to clonidine.

Opioid maintenance agents: **Methadone** has been used in the U.S. for maintenance treatment of opioid use disorder since the 1960s. It is a synthetic, long-acting medication used in heroin detoxification programs to maintain abstinence from heroin use. When used in proper doses,

methadone stops the cravings but does not create euphoria, sedation, or an analgesic[30] effect. Many people who have been addicted to heroin have returned to a productive life because of methadone treatment programs. **Methadone** also is occasionally used to provide relief for specific types of pain. (See also *Narcotic and Opioid Analgesics*, p. 23.)

Buprenorphine, or **Subutex**, is a prescription medication approved in 2002 for treating opioid use disorder. 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. **Suboxone** is buprenorphine combined with naloxone, a narcotic antagonist[31] used to reverse the effects of opioids. **Suboxone** is also approved for treating opioid use disorder and offers the same benefits as those previously stated for buprenorphine.

Naltrexone completely blocks the pleasurable reinforcement that comes from opioids. They are beginning to be more widely used for alcohol relapse prevention (see pp. 27–28). Naloxone is more commonly used in its injectable form to reverse the effects of opioids. It is beginning to be used in its oral form to reduce alcohol craving; it is also beginning to be used in gambling and nicotine use disorders.

TOBACCO

GENERIC	BRAND
Nicotine Replacement Therapies (NRT)	
nicotine patch/ transdermal nicotine	Nicoderm CQ, Nicotrol, Habitrol, Prostep
nicotine polacrilex gum	Nicorette
nicotine polacrilex lozenges	Commit
nicotine inhaler	Nicotrol Inhaler
nicotine nasal spray	Nicotrol NS
Pharmacotherapies for Smoking Cessation	
varenicline	Chantix
bupropion	Zyban
nortriptyline	Aventyl, Pamelor
clonidine	Catapres

PURPOSE

Complete long-term abstinence from all nicotine-containing products is the goal of tobacco cessation therapies. Medications and products for tobacco cessation assist clients with nicotine dependence[32] to achieve abstinence by alleviating or reducing common nicotine withdrawal symptoms[33] and cravings. Numerous scientific studies have shown that it's easier for individuals to quit tobacco when supported by a medical or a mental health clinician. For this reason, recommended treatment strategies incorporate both behavioral counseling and pharmacotherapy. Nonetheless, pharmacotherapy is contraindicated for some specific populations (i.e., pregnant women, smokeless tobacco users, light smokers, and adolescents). Empirically validated tobacco treatment strategies are available as cited in the *2008 Treating Tobacco Use and Dependence Guidelines* (DHHS 2008).

Nicotine Replacement Therapies (**NRT**) such as transdermal nicotine patch, nicotine polacrilex gum and lozenge, nicotine nasal spray, and nicotine inhaler are FDA-approved. These therapies reduce withdrawal symptoms and cravings by replacing

[30] *analgesic*: Producing relief or insensibility to pain without loss of consciousness.

[31] *antagonist*: A substance that blocks the normal physiological function of a receptor site in the brain.

[32] *nicotine dependence*: Nicotine dependence is a recognized mental health disorder that is often overlooked by counselors. This substance use disorder significantly reduces the overall quality-of-life and is considered the deadliest yet most preventable disease to be treated. Cigarette smoking is a primary cause of cancers of the esophagus, lung, throat, mouth and is associated with the development of cancers of the bladder, cervix, kidneys, pancreas, stomach, and some leukemias. Smoking is also a major cause of heart disease, bronchitis, emphysema, and stroke.

Nicotine, the addictive chemical in cigarettes and other forms of tobacco, crosses the blood-brain barrier and activates the brain's reward center. This causes the brain to release noradrenaline and dopamine, which act as stimulants (implicated in mood, memory, and sense of well-being). Nicotine remains active for 20-40 minutes in the brain, and then withdrawal symptoms begin, leading to cravings for more nicotine.

[33] *nicotine withdrawal symptoms*: Common nicotine withdrawal symptoms include irritability, anger, impatience, restlessness, difficulty concentrating, insomnia, increased appetite, anxiety, and depressed mood. The replacement of nicotine in the brain during withdrawal produces the sense of "relief" or "relaxation" commonly expressed by individuals when they re-administer nicotine to the body.

nicotine that would be ingested through chewing tobacco or smoking cigarettes. Numerous clinical trials involving NRT have demonstrated the effectiveness of these products for smoking cessation.

Bupropion, as an antidepressant, can help with withdrawal anxiety and depression. Sustained-release bupropion (bupropion SR) is one of the few non-nicotine pharmaceutical aids that are FDA-approved for smoking cessation. This agent is thought to affect dopamine[34] and norepinephrine[35] levels, and blocks nicotinic acetylcholinergic receptors[36], thereby decreasing cravings for cigarettes and symptoms of nicotine withdrawal. The use of bupropion roughly doubles cessation rates relative to placebo, and the combination of bupropion with the nicotine patch has shown higher quit rates than using the patch alone.

Varenicline is a more recently FDA-approved smoking cessation medication and the first in its class targeting specifically the neurobiology of nicotine use disorder. It reduces the smoker's craving for nicotine by binding to nicotine receptors in the brain and thereby reducing withdrawal symptoms as well as resulting in a less satisfying smoking experience. Smokers using varenicline have better rates of smoking cessation compared to those who use bupropion. Varenicline offers a new option for those who cannot tolerate the adverse effects associated with **NRT** and bupropion, and represents an alternative for clients with contraindications to such therapies.

OTHERS

Stimulant intoxication: Agitation, paranoia and psychosis are treated with antipsychotics, often combined with benzodiazepines. Both alcohol and stimulant intoxication together commonly appear to cause these symptoms.

Stimulant withdrawal: There are no standard effective agents to treat stimulant withdrawal, though dopamine-enhancing agents such as amantadine, bupropion, and desipramine have been tried with mixed results. This area has not been well researched.

Stimulant relapse prevention: Again, dopamine-enhancing agents such as bupropion and desipramine have mixed results. The National Institute on Drug Abuse (NIDA) is researching agents that might alter how stimulants act on a person, including the development of "inoculation" agents that might inactivate stimulants.

Club Drugs: Little research has occurred in this area. There are reports that SSRI's may be protective of the damage caused to nerve cells by some of these drugs. Antipsychotics and sedatives are used to treat induced psychoses associated with club drug abuse.

Marijuana: Recently, a withdrawal syndrome to marijuana dependence has been described and validated. Medications for treating this syndrome have not been adequately tested. THC[37], the chief intoxicant in marijuana, is a strong anticholinergic agent and is sedating. Therefore some clinicians have used moderate doses of the older tricyclic antidepressants (e.g., amitriptyline or imipramine) to treat withdrawal from marijuana as they also have anticholinergic and sedating qualities but do not cause a high, nor are they abused.

USUAL DOSE & FREQUENCY

All medications have specific doses and frequencies. The physician will specify the exact amount of medication and when it should be taken; this information is provided on the prescription bottle. Disulfiram should never be given to people without their full knowledge or when they are intoxicated. It should not be given until the person has abstained from alcohol for at least twelve hours. A daily, uninterrupted dose of disulfiram is continued until the person 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 in its oral form 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. The injectable form of naltrexone is taken once a month. Because of the way acamprosate is absorbed, it must be taken as two pills three times a day with each dose separated by at least four hours.

[34] *dopamine*: A type of neurotransmitter in the brain.
[35] *norepinephrine*: A type of neurotransmitter in the brain.
[36] *acetylcholinergic receptors*: A type of neurotransmitter receptor in the brain activated by the neurotransmitter acetylcholine.

[37] *THC*: Tetra*h*ydro*c*annabinol: An active chemical from hemp plant resin that is the chief intoxicant in marijuana.

Buprenorphine combined with naloxone is given as a sublingual tablet (it is absorbed under the tongue). It is not absorbed if swallowed or chewed. If injected intravenously, buprenorphine will cause opioid withdrawal. Buprenorphine 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.

People should continue to take naltrexone, acamprosate or buprenorphine until they have reached full and mature recovery and have reorganized their life to maintain recovery.

Some Nicotine Replacement Therapy (NRT) medications can be obtained without a prescription, including the nicotine patch, gum, and lozenge. Specific information on how to use NRT products correctly, recommended dosing schedules, symptoms of overdose, and proper storage/disposal of the products are included on the product label or inside the package.

The nicotine patch is available in three strengths and a "step-down" approach is used: 21 mg for 6 weeks, then 14 mg for 2 weeks, then 7 mg for 2 weeks. For those who smoke less than one pack a day, consider starting at 14 mg dose. A new patch needs to be reapplied each day, at roughly the same time each day.

The nicotine polacrilex gum and lozenge are offered in 2 milligrams (mg) and 4 mg. Individuals who smoke fewer than 25 cigarettes per day should initiate therapy with the 2 mg strength, and heavier smokers should initiate with the 4 mg strength. During the initial 6 weeks of therapy, one piece of gum should be chewed every 1 to 2 hours while awake; at least nine pieces of gum daily. The gum should be used for up to 12 weeks and no more than 24 pieces should be chewed a day. A "chew and park" technique is necessary for nicotine to absorb correctly and food or beverages should be avoided 15 minutes before or after using the nicotine gum.

Unlike other forms of NRT, which are dosed based on the number of cigarettes smoked per day; the recommended dosage of the nicotine lozenge is based on the "time to first cigarette" of the day. Some studies suggest that the best indicator of nicotine dependence is having a strong desire or need to smoke soon after waking. Clients who smoke their first cigarette of the day within 30 minutes of waking are likely to be more highly dependent on nicotine and require higher dosages than those who delay smoking for more than 30 minutes after waking. During the initial 6 weeks of therapy, clients should use one lozenge every 1 to 2 hours while awake; at least nine lozenges daily. Clients can use additional lozenges (up to 5 lozenges in 6 hours or a maximum of 20 lozenges per day) if cravings occur between the scheduled doses. The lozenges should be used for up to 12 weeks with no more than 20 lozenges used a day. Lozenges should be allowed to dissolve in the mouth and food or beverages should be avoided 15 minutes before or after using the nicotine lozenge.

Bupropion should be started 7-14 days before a targeted smoking cessation date. Generally, for the first 3 days of treatment, individuals take 150 mg, then 150 mg twice a day for 7 to 12 weeks, and for some individuals, up to 6 months to increase the likelihood of long-term tobacco cessation.

The approved course of varenicline treatment is 12 weeks; however, an additional 12 weeks of treatment may increase the likelihood of long-term smoking cessation for some individuals. For the first 3 days of treatment, individuals take 0.5 mg once a day, followed by 0.5 mg twice a day for the next four days, and then 1 mg twice a day for the remainder of the treatment period.

For certain groups of smokers, it may be appropriate to continue NRT treatment or pharmacotherapies for periods longer than is usually recommended. In general, the more intense the treatment for tobacco cessation (e.g., combined use of NRT and pharmacotherapies), the higher the likelihood of successful cessation. Specific combinations of first line medications shown to be effective include the nicotine patch and bupropion SR, the nicotine patch and the inhaler, and long-term nicotine patch (greater than 14 weeks) and *ad libitum* NRT use. Varenicline is not recommended for use in combination with NRT because of its nicotine antagonist properties.

While **NRT** replaces the nicotine that the patient had while smoking, bupropion and varenicline are medications that aid in quitting. The underlying desire to quit must be present or bupropion and varenicline will have little to no effect on the patient that is trying to quit.

POTENTIAL SIDE EFFECTS

Potential side effects for disulfiram (rare at lower doses mostly occur at higher doses > 500 mg day):

- 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 acamprosate (Side effects on therapeutic doses of acamprosate are rare, other than mild transient gastrointestinal symptoms during the first week):

- Agitation
- Coma
- Confusion
- Decreased urine output
- Depression
- Dizziness
- Headache
- Irritability and hostility
- Lethargy
- Muscle twitching
- Nausea
- Rapid weight gain
- Seizures
- Swelling of face ankles or hands
- Unusual tiredness or weakness

Potential side effects for opioid treatment medications (See also *Narcotic and Opioid Analgesics*, p. 24):

- 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

*Potential side effects for NRT and pharmacotherapies for smoking cessation**

Nicotine patch: skin reactions (i.e., itching, burning, redness or rash at patch site) are usually mild and often resolved by rotating patch site. Other side effects include insomnia and/or vivid dreams.

Nicotine gum: mouth soreness, hiccups, indigestion, jaw muscle aches. Most of these are mild and subside with continued use of the gum.

Nicotine lozenges: nausea, hiccups, heartburn. For 4mg. lozenge, increased rates of headaches and coughing reported.

Bupropion: dry mouth, insomnia, increase risk for seizures.

Chantix: nausea, trouble sleeping, abnormal/vivid/strange dreams, increase in suicidal thoughts in some patients.

*See FDA package insert for each product for a more complete list of side effects.

EMERGENCY CONDITIONS

An overdose of any substance use disorder treatment medication is always considered an emergency and treatment should be sought immediately.

Symptoms of a nicotine overdose may include nausea, vomiting, diarrhea, stomach pain, cold sweats, headache, dizziness, problems with hearing or vision, confusion, an irregular heartbeat, chest pain, seizures, and death.

CAUTIONS

- Doctors and pharmacists should be told about all medications being taken and dosage, including over-the-counter preparations, vitamins, minerals, and herbal supplements (i.e., St. John's wort, echinacea, ginkgo, ginseng).
- People taking disulfiram should be warned to avoid even small amounts of alcohol in other food products or "disguised forms" as this will

cause a reaction (i.e., vanilla, sauces, vinegars, cold and cough medicines, aftershave lotions, liniments).

- People taking disulfiram 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.
- People taking opioid medications should not increase or decrease 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 street drugs.
- People taking naltrexone or nalmefene should be warned that if they are dependent on opioids, taking these medications will cause opioid withdrawal for up to three days and block the effect of any opioids taken for up to three days.
- Smoking can have an effect on the way the body processes other prescribed medications. Substances found in tar in cigarettes stimulate enzymes in the liver, and fluctuations in an individual's smoking pattern can result in higher or lower doses of medications needed to reach therapeutic levels.
- Although studies have now documented the lack of association between the nicotine patch and acute cardiovascular events, even with individuals who continued to smoke while on the patch, all NRT products should be used with caution for individuals who had a recent (within 2 weeks) myocardial infarction (**MI**)[38], those with severe arrhythmias, or those with unstable angina pectoris.[39]
- NRT products should be properly disposed of to insure safety of children and pets. Nicotine on hands can get into nose or eyes, causing stinging and redness. Wash hands with soap and water after handling the patch.
- Because seizures have been reported in 0.1% of patients, bupropion is contraindicated in individuals who have a history of seizure disorder, have a current or prior diagnosis of anorexia[40] or bulimia[41], are currently using another form of bupropion, or are currently using or have used a Monoamine Oxidase (MAO) Inhibitor within the past two weeks. Other factors that might increase the odds of seizure and are classified as warnings for this medication include a history of head trauma, central nervous system tumor, the presence of severe hepatic cirrhosis, and concomitant use of medications that lower the seizure threshold. Bupropion can be used safely in combination with NRT and may be beneficial for use in clients with underlying depression.
- Although varenicline is well tolerated in most individuals, recent case reports describe exacerbations of existing psychiatric illness in clients who took varenicline prompting the FDA to add a warning regarding the use of varenicline in February 2008. Specifically, the warning notes that depressed mood, agitation, changes in behavior, suicidal ideation, and suicide have been reported in clients attempting to quit smoking while using varenicline. Patients that have a change in personality, increase in anger or thoughts of suicide should be immediately referred back to their doctor.
- Because varenicline is eliminated almost entirely unchanged in the urine, it should be used with caution in clients with severe renal dysfunction.

SPECIAL CONSIDERATIONS FOR PREGNANT WOMEN

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 main-

[38] *myocardial infarction (MI):* Myocardial Infarction more commonly known as a heart attack is a medical condition that occurs when the blood supply to a part of the heart is interrupted.

[39] *unstable angina pectoris*: commonly known as angina, is chest pain due to ischemia (a lack of blood and hence oxygen supply) of the heart muscle, generally due to obstruction or spasm of the coronary arteries (the heart's blood vessels).

[40] *anorexia*: An eating disorder marked by an extreme fear of becoming overweight that leads to excessive dieting to the point of serious ill-health and sometimes death.

[41] *bulimia*: A condition in which periods of overeating are followed by under-eating, use of laxatives, or self-induced vomiting. It is associated with depression and anxiety about putting on weight.

tained 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 pregnancy, 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 (giving half the dose in the morning and half in the evening), particularly during the third trimester of pregnancy, may stabilize the woman's blood methadone levels and effectively treat withdrawal symptoms and craving.

Women who are on methadone may breastfeed their infant(s). 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 use disorders treatment providers. Comprehensive care for the pregnant woman who is opioid dependent must include a combination of methadone maintenance, prenatal care, and substance abuse treatment. While it is not recommended that pregnant women who are maintained on methadone undergo detoxification, if these women require detoxification, the safest time is during the second trimester. In contrast, it is possible to detoxify women dependent on heroin who are abusing illicit opioids by using a methadone taper. For further information, consult the forthcoming.

Buprenorphine has been examined in pregnancy and appears not to cause birth defects but it may be associated with a withdrawal syndrome in the newborn (Jones and Johnson 2001). Buprenorphine has not yet been approved for use with this population. More data are needed about the safety and effectiveness of buprenorphine with pregnant women.

Naloxone should not be given to a pregnant woman even as a last resort for severe opioid overdose. Withdrawal can result in spontaneous abortion, premature labor, or stillbirth (Weaver 2003).

Propranolol, labetalol, and metoprolol are the beta-blockers of choice for treating high blood pressure during pregnancy (McElhatton 2001). However, the impact of using them for alcohol detoxification during pregnancy is unclear.

Nicotine replacement therapy (NRT) is contraindicated during pregnancy.

For all women of childbearing age who may be or think they may be pregnant, the physician should discuss the safety of these medications before starting, continuing, or discontinuing medication treatment. Substance abuse counselors may have a role in encouraging this discussion by suggesting their clients talk with the prescribing physician.

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 may or may not be placed in the chart.

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 that he or she will act on your input.

Do your best to become a "team."

When the physician does not respond.

Professional duty dictates that a report should be updated whenever a client's condition or situation changes in a manner thought to affect the client's general health and/or medical care. Continue attempts to coordinate care when it is in the client's best interest even if the physician appears not to respond.

Download The Substance Abuse Treatment Coordination Report (available in English and Spanish)—www.ATTCnetwork.org

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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 every day 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.

Suggest they use a Mediset: a small plastic box with places to keep medications for each day of the week, available at any pharmacy. The Mediset acts as a reminder and helps track whether or not medications were taken.

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 and they need to discuss it with their prescribing physician.

Ask their reason for choosing not to take the medication.

Don't accept *"I just don't like pills."* Tell them you are 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're 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 about what they could do differently in the future.

Brief Counselor Strategies for Tobacco Users—the Five As*

ASK about tobacco use and past quit efforts

Get the conversation started:

"Do you currently use any form of tobacco? Have you used it in the past? How old were you when you started? Tell me about your efforts to quit. What helped, what didn't help?"

ADVISE abstinence

Advice should be:

Clear: "Quitting is the most important thing you can do for your health. Cutting down is not enough."

Strong: "You are more likely to die from smoking than from all other drugs and alcohol use combined."

Personalized: "You have powerful reasons to quit. For example..." [tie tobacco use in with current symptoms or health concerns].

ASSESS willingness for a quit attempt during next 30 days

Determine motivation level to quit:

"On a scale from 1 to 10, with 1 being 'not at all motivated' to 10 being 'extremely motivated,' how ready are you to quit in the next 30 days?"

If willing to make a quit attempt:

Communicate research in quitting, "Research shows that quitting is possible for all populations. In fact, more people have quit than are still smoking and about 80% of all Americans are smoke-free."

Discuss effective treatments available, such as nicotine replacement therapies (NRTs), medications, self-help resources (help lines or support groups), and counseling.

Initiate agreed upon treatment plan, "Let's come up with a plan."

If unwilling to make a quit attempt, provide motivational intervention (see Five R's section)

ASSIST quit attempt effort

Develop a quit plan (**STAR**)*:*

Set a specific quit date, ideally within two weeks, that has some meaning (e.g., anniversary, stress-free weekend)

Tell family, friends, coworkers and others about quitting, request extra support and understanding; ask other smokers in the household to not smoke inside; identify at least one non-smoker to talk to when tempted to smoke

Anticipate challenges that will occur including withdrawal symptoms, cravings, and high-risk situations

Remove environmental triggers (e.g., ashtrays, lighters); avoid smoking in 'favorite' places (e.g., car, dinner table, easy chair); limit smoking to uncomfortable places (e.g., outside); recommend visiting only smoke-free establishments

Provide problem-solving strategies and skills training:

Track tobacco use patterns (e.g., time, circumstances) and identify high risk situations:

> Internally—mood swings, negative self-talk, smoking urges
>
> Externally—drinking coffee, taking a break, watching TV, driving, seeing other smokers

Identify substitute behaviors to smoking and other cognitive behavioral activities for coping (e.g., keep hands busy with a 'worry stone;' chew gum; exercise; engage in 'self-soothing' activities such as warm bath, listen to soothing music; imagine telling people you are a non-smoker, practice asking others to not smoke around you or leave cigarettes around; change daily routine)

Provide basic information about smoking and successful quitting (e.g., educate on the addictive nature of smoking; discuss that even a single puff increases the likelihood of a full relapse; withdrawal symptoms typically peak within 1–2 weeks after quitting but may persist for months)

Recommend use of NRTs, tobacco cessation medications:

Explain how these products increase smoking cessation rates and reduce withdrawal symptoms and cravings

Provide materials on dosages, contraindications, side effects, etc.

Assist in obtaining prescription

ARRANGE follow-up help

Timing:

Schedule first follow-up within one week of quit date and a second within one month; schedule additional follow-ups as indicated, encouraging and allowing phone calls as needed

Make sure that NRTs, medications, and educational materials are received prior to quit date

If abstinent during follow-up:

Congratulate on success; consider giving a certificate or other reinforcement

Check on whether cravings increased for other substances (alcohol, other drugs)

Discuss relapse prevention

Start planning ahead for a smoke-free life

If slip or relapse occurred:

Normalize the difficulty in quitting

Reframe relapse as a learning experience and does not mean failure or necessitate a return to full tobacco use

Motivate to try to quit again immediately

Reassess and re-initiate quit plan

Brief Counselor Strategies for Tobacco Users Unwilling to Quit—the Five Rs*

RELEVANCE of quitting

Discuss the relevance of quitting for health and economic concerns:

Encourage identifying why quitting is personally relevant to him/her (health status, family or social situation, age, gender, prior quitting experiences, etc.)

Write down personal incentives for quitting, rank order reasons, focus on them as often as possible, carry around on card in cigarette pack

RISKS of continued use

Discuss short- and long-term impact to person and family:

Highlight risks specific to him/her and prioritize, "Spouses, children, and other people exposed to second-hand smoke are at higher risk to get colds, the flu, ear infections, and lung infections than people who are not around second-hand smoke"

Inform him/her that reducing number of cigarettes, using alternative tobacco products (cigars), or switching brands will not eliminate risks

Discuss acute (e.g., harm to pregnancy) and long-term (e.g., lung and other cancers) risks

REWARDS of quitting

Discuss physical changes (some immediate) as a result of quitting and highlight those most relevant:

Pulmonary benefits:

- Carbon monoxide and oxygen levels in the blood return to normal after 8 hours
- Bronchial tubes relax, making it easier to breathe after 72 hours
- Cilia re-grow in lungs, increasing ability to fight infection after 1-9 months
- Coughing, sinus infection, and shortness of breath decrease after 1-9 months

Cardiac benefits:

- Blood pressure and body temperature returns to normal after 20 minutes
- Chance of heart attack decreases after only 24 hours

- Risk of coronary heart disease is half that of a smoker within 1 year
- Heart attack risk drops to near normal within 2 years
- Stroke risk is reduced after 5 years
- Risk of coronary heart disease is the same as non-smokers within 15 years

Reduced cancer risk benefits:

- Lung cancer death rates for a former pack per day smoker is cut in half after 5 years
- Risk of throat, mouth, and esophageal cancers is cut in half after 5 years
- Lung cancer death rate is similar to that of non-smokers within 10 years
- Pre-cancerous cells are replaced within 10 years

Other benefits:

- Expect to save $2000/year or more, list ideas for how to spend money saved
- Improved taste and smell, improved smell of home and car, reduce aged appearance
- Improved sleep, reduced anxiety, reduced depression, and improved sexual functioning after period of abstinence
- Strengthened sobriety from other addictive substances (when sobriety from those substances is already established)

Identify ROADBLOCKS to quitting

Encourage each individual to discuss his/her perceived barriers to quitting and offer strategies that address these challenges:

Examples of roadblocks could include fear of failure, weight gain, lack of support, mood or emotional problems, withdrawal symptoms, life circumstances, presence of another smoker in the household, enjoyment of tobacco, etc.

Use REPETITION

Use motivational interventions each session:

Repeat the Relevance, Risks, and Rewards

*The Five As and Five Rs are available in the 2008 update of the *Treating Tobacco Use and Dependence Guidelines* (DHHS 2008).

Notes

Notes

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