Bipolar Medications

A Concise Guide to Medication Treatments for Bipolar Disorders in Adults and Adolescents

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Dedication:

For those suffer and for those who love them

Bipolar Medications

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Bipolar disorder that first emerges in childhood is in many respects significantly different what is seen in adults and teenagers. The medical treatment of pre-adolescent onset bipolar disorder is beyond the scope of this e-book. Treatment of bipolar disorder in children is addressed in a book: *Child and Adolescent Clinical Psychopharmacology made Simple* by John Preston, John O'Neal and Mary Talaga New Harbinger Publications (2015)

Part One: Introduction

Bipolar disorder is a very severe psychiatric illness. Many psychiatric disorders can be successfully treated without the necessity of medications; a good example is unipolar major depression (the most common type of severe depression) that often can be effectively treated by psychotherapy and physical exercise. However, medication treatment is absolutely required in the treatment of bipolar disorder. Bipolar drugs are often very difficult to take owing to significant side effects and the necessity of going through multiple trials on various drugs in an attempt to find medications that are tolerable and effective. Some people are lucky; the first medication or medication combination is the one that works. But that's the exception…not the rule. In the hands of the most competent and knowledgeable psychiatrist the search for the right treatments is often difficult.

For most people suffering from bipolar disorder medication treatment outcomes can be good but this depends on five factors: 1. finding a doctor/therapist who knows the territory; who has expertise in treating mood disorders, 2, finding a therapist who will stick with you and never give up, even in the face of difficulties that are often encountered in the treatment of bipolar disorder, 3. receiving integrative treatment. This is a combination of treatments that include medications, psychotherapy and life style management (discussed briefly later in this e-book), 4.family support: loved ones that understand bipolar disorder and who are there to provide support and 5. as the patient, becoming an active member of the treatment team…one who learns about this disorder and can ask questions, provide feedback on the effects of treatment and report any problems should they arise.

Since you are reading this book the odds are that you or one of your loved ones have been diagnosed with bipolar disorder. Bipolar is by definition a recurring disorder. Without appropriate treatment, episodes will recur and if not properly treated many people with bipolar disorder may become progressively more ill. The cost is enormous. With recurring episodes both the person with the illness and their family members are in for a very rough ride. Beyond the obvious, tremendous emotional suffering, catastrophes can and often do occur. These outcomes include divorces, loss of the ability to maintain employment, health problems (many physical conditions and diseases are associated with long-term untreated bipolar disorder, including two times the normal rates of severe

cardio-vascular diseases), and possible suicide. In untreated or poorly treated bipolar disorder the lifetime suicide rate is 19-20%...This is staggering; one out of five bipolar patients will take their own life. This is one of many reasons that this disorder must be taken very seriously and treated aggressively.

Bipolar disorder is *the* psychiatric condition in which there is the greatest evidence of genetic transmission. It is clearly a disorder of abnormal brain functioning. Psychological stressors can provoke some episodes, however, it is important to know that the *cause* of mood episodes can be traced to abnormal biochemical functioning in the brain. It is very important for the person afflicted with bipolar disorder and those in their life who love them to be clear about this. Bipolar disorder is not a result of character flaws nor is it something that can be resolved by simply "trying harder". A "pick yourself up by your boot straps" mentality that is so commonly encountered in our culture does not apply to bipolar disorder. The mood episodes seen in bipolar are powerfully driven by underlying neurobiological factors.

Once the right medication or combination of medications is found, then *treatment must continue for a life time*. Without this relapses are going to happen. However, it is important to acknowledge that bipolar medications which are effective in treating this disorder are also notoriously difficult to take, due to significant side effects. More than 50% of people suffering with bipolar disorder will at some point stop their medications against medical advice, only to then re-experience another mood episode (a few months later, or in some instances a few years later). The most common reason for discontinuing treatment is due to the significant side effect burden of these drugs.

Most people who are successfully treated for bipolar disorder end up taking 3 or 4 medications simultaneously. This may seem like a lot, but it has been shown conclusively, that a combination of drugs from several medication classes is what is required to achieve two goals: effectiveness in preventing recurring mood episodes and medication tolerance (i.e. attempting to minimize side effects). It is common for those experiencing their first episode (of mania or depression) to go through a number of medication trials. On average those who ultimately are successfully treated will be tried on 6 different medications (plus or minus 2) before the right combination is found. This is important to underscore. For many patients or the parents of children suffering with bipolar, trails on one drug after another often lead to frustration and increasing skepticism about treatment. "Does this doctor know what he (or she) is doing?!" In the

hands of the most competent psychiatrists, these trials are absolutely necessary. It is almost impossible to know from the beginning what drugs or medication combinations will be needed, and this is owing to the great amount of variability from one person to another (often this is due to significant differences in how each individual person metabolizes medication).

Severe manic episodes especially with psychotic symptoms or outlandish, out-of-control behavior…and often dangerous behavior such as suicide attempts that can be seen in both mania and depression … scare patients and their family members alike. Bipolar disorder *is* frightening and understandably everyone wants treatments that will rapidly deal with these very disturbing behaviors. Emergency treatments (described below) often get patients beyond severe and life threatening symptoms in a few days. From that point on, however, successful treatment requires months of careful and systematic medication trials, adjusting medication doses and trying drug combinations that ultimately will provide more lasting control over bipolar mood episodes.

It is important for those suffering with bipolar disorder and their loved ones to become familiar with the specifics of medical treatment for this disorder. I sincerely hope that this guide to bipolar medications will be helpful as you or a loved one with this illness seek out treatments that can reduce suffering and can possibly even save a life.

Overview: In the first section we will review briefly the diagnosis of bipolar disorder and look at the various subtypes of this psychiatric condition. The next part discusses in detail specific strategies for the treatment of bipolar disorder using psychiatric medications. The role of lifestyle management and psychotherapy are also discussed briefly. It is very important to note that strategies that address lifestyle issues and psychotherapy are very important for successful outcomes. There is an old saying, "There are no *home run* pills." All successful outcomes depend on integrated treatments. As noted above, medications are the backbone of treatment for bipolar disorder, but under the best of conditions, aggressive and appropriate medical treatment will only get you to second or third base. A detailed discussion of psychotherapy and lifestyle interventions is beyond the scope of this book. The reader will be referred to several other books that describe these issues in the reference section of the book. This e-book is devoted almost exclusively to medication treatments.

Your Rights: It is my strong belief that all people receiving drug treatments for whatever illness have a right to know specific information about the medications they are prescribed. This information includes the risks and benefits of the drugs. It includes side effects, potentially dangerous drug reactions (and interactions with other prescription and non-prescription medications), whether or not a particular medication is habit forming (i.e. may lead to addiction), safety during pregnancy and breast feeding, and information about drug actions (e.g. how long it takes the drug to begin showing positive effects and for how long must a medication be continued). A legitimate question to ask of your physician is to inquire about specific reason that he or she has chosen particular medications. Competent medical providers should be able to answer such questions in a straight-forward and non-defensive manner. The days of the powerful doctor and passive patient are over. It is now clearly recognized that collaboration between the doctor and patient, working together as a team, has the best outcomes. Additionally, if the person suffering from bipolar disorder chooses to do so, it is enormously helpful to have a spouse, partner, parent or other loved one come to at least one session and join the team. Often family involvement can help considerably (the more they know about the disorder, its biological causes and the appropriate use of psychiatric medications, the better).

Bipolar Disorder Defined

Bipolar disorder is a common type of mood disorder affecting between 3-6% of the population (lifetime prevalence: Akiskal, et al. 2000). It is now

appreciated that there are a number of different types of bipolar disorder and together these are often referred to as *bipolar spectrum disorders*. Bipolar disorders are a group of genetically-transmitted illnesses that result in recurring episodes of depression and mania or hypomania (see below). This is a life-long disorder which requires on-going medical treatment. Mood-stabilizing medications can effectively reduce episode severity and frequency; however there is currently no cure.

Symptoms of Bipolar Depression

1. Sadness or despair
2. Irritability
3. Low self-esteem
4. Apathy; no motivation
5. Excessive, inappropriate guilt
6. Pessimistic, negative thinking
7. Lack of feelings of aliveness and enthusiasm
8. Loss of interest in activities that normally are pleasurable or meaningful
9. Social withdrawal
10. Appetite changes: increased or decreased
11. Loss of sex drive
12. Significant fatigue
13. Suicidal thoughts/impulses
14. Anxiety and/or agitation
15. Sleep disturbances: there are several types of sleep disturbance seen in depression:
    Trouble falling asleep; frequent awakenings during the night; waking up very early (e.g. 4 am) and being unable to go back to sleep; lack of deep, restorative sleep; hypersomnia: sleeping a lot (e.g. 10-12 hours a day). With hypersomnia despite sleeping a lot, most times the person feels very fatigued and exhausted during the day.

Atypical depression: this is a type of severe depression that has three classic symptoms: hypersomnia (sleeping a lot), severe fatigue and increased appetite (and ultimately this leads to weight gain). This cluster of symptoms is a very common version of bipolar depression. When there is a severely depressed mood accompanied by these three symptoms approximately 80% of those with this clinical picture turn out to have bipolar depression.

It is very important to note: the majority of depressions people experience are *Unipolar depressions* (also referred to as unipolar major depression or unipolar clinical depression). With unipolar depression there are no manic or hypomanic symptoms/episodes(described below). Unipolar and bipolar depressions share many symptoms in common. However, it is very important to carefully evaluate anyone with significant depression, being sure whether or not the person suffers from unipolar or bipolar depression. The underlying biology of these two types of depression is not alike. And, most importantly, the medications used to treat these two types of depressions differ. For example, often times, antidepressants successfully used to treat unipolar depression can, in fact, make some people with bipolar depression worse. More will be said about this later in this e-book.

Mania and Hypomania

Eighty percent of manic episodes are *classic (or euphoric)* manias, 20% suffer from *dysphoric or mixed mania*. These two versions of mania share some symptoms in common (detailed below), but in many respects they are different. Note: if early episodes (i.e. the first one or two episodes of mania or depression) are not adequately treated or patients stop taking their medications, one very significant result can be that some people stop having classic mania and instead begin having dysphoric or mixed mania. As noted below, dysphoric or mixed mania is often harder to treat and carries with it an increased *risk* of suicide.

Symptoms of Classic Mania (also known as euphoric mania)

1. Euphoria or an inflated sense of self-worth
2. Restlessness, agitation, hyperactivity
3. High level of energy

4. Decreased need for sleep (e.g. sleeping 3-5 hours per night, yet without daytime fatigue)
5. Racing thoughts and rapid, pressured speech
6. Poor judgment and impulsive behavior, e.g. spending enormous amounts of money, out of control gambling, driving fast/recklessly, marked alcohol or drug abuse, promiscuity and engaging in unsafe sex
7. Psychotic symptoms can occur (e.g. delusions)

Symptoms of Dysphoric or Mixed Mania

1. Dysphoric manic episodes share the following symptoms commonly seen classic mania
   a. Agitation, restlessness, hyperactivity
   b. Decreased need for sleep
   c. Racing thoughts and rapid, pressured speech
   d. Psychotic symptoms can occur …..along with the following symptoms (unique to dysphoric mania)
2. Marked irritability
3. Negative, pessimistic thinking
4. Feelings of worthlessness
5. Suicidal ideas (*significantly* increased suicidal behavior can be seen with dysphoric/mixed mania)

Hypomania

Hypomania is a milder version of mania that typically involves much less intense mood symptoms. The duration of hypomania is often only 1-7 days and is frequently not noticed as being a sign of illness by the person experiencing hypomania (although most times family members are more clearly aware of the mood changes and increased energy). During some hypomanias the person can feel highly motivated and productive, is witty, gregarious and “up beat” (although there is often underlying irritability). One very common sign of hypomania is a decreased need for sleep with no daytime fatigue.

Sub-types of Bipolar Disorder

There are four subtypes of bipolar disorder:

1. **Bipolar I**: severe manic (classic or dysphoric) and depressive episodes (often with periods of normal mood between episodes).
2. **Bipolar II**: characterized by frequent, severe and prolonged depressions with periodic, brief episodes of hypomania, a normal mood can occur between episodes, but often during these in-between times there is a low-grade/mildly depressed mood and/or the feeling of being "revved-up", frequently impatient and irritable.
3. **Childhood onset bipolar disorder:** likely to be a more severe variant of bipolar disorder. Manias tend to be non-episodic (i.e. more chronic; once they begin can last for many months. Teenagers and adults experience more brief manic episodes; if they go untreated usually last about 3 months and then spontaneously subside). The majority of childhood-onset manias (95%) are of the dysphonic variety. As noted above, the treatment of onset bipolar disorder is not addressed in this e-book.
4. **Cyclothymia**: mild depressions and hypomania. Note: this less severe version of bipolar can become worse with time and more than one half of people with cyclothymia eventually convert to Bipolar I or Bipolar II.

A complication of bipolar disorder affecting about 20% of suffers is called *rapid cycling*. This represents a time limited worsening of the illness in which episodes occur with greater frequency (i.e. 4 or more episodes of depression, mania or hypomania per year). Most cases of rapid cycling last a few months to a year and a half and then subside. The most common cause for rapid cycling is substance use/abuse (often unreported by the patient). Also, the use of antidepressants can contribute to rapid cycling (more will be said about problems with antidepressant use in those with bipolar illness). When even more frequent episodes are evident it is referred to as ultra-rapid cycling or ultradian cycling bipolar.

Untreated or poorly treated bipolar illness leads to disaster. Careers and marriages are ruined, physical health problems abound, and there is a high rate of suicide. If not treated, many cases of bipolar disorder become progressively worse. The sooner this illness can be diagnosed and properly treated, the better.

Part Two: Treatments for Bipolar Disorder

Treatment must have a two-pronged focus: bringing to an end the current manic or depressive episode and relapse prevention. With proper medical treatment most people can experience a marked decrease in episode frequency and severity.

Life-style Management : High Yield Strategies

People with bipolar illness have very unstable and fragile neurobiologic mechanisms for emotion regulation resulting in extreme emotional instability and mood swings. Mood episodes can be triggered by a number of environmental, psychological and physiological stressors. It is especially important to regulate ones lifestyle closely: without this, medical treatments often are only partially effective. Most important are:

· Maintain regular bed times and awakening times. Such regularities in sleep patterns are crucial

· Avoid substance abuse and alcohol use/abuse like the plague (substance abuse is very common in bipolar disorder and often significantly aggravates the illness)

· Avoid sleep deprivation, shift work and crossing time zones (all of which can destabilize the circadian rhythm which can, in turn, lead to more mood instability)

· Avoid or greatly minimize caffeine use since it can significantly disrupt the quality of sleep

· Keep the amount of bright light exposure (e.g. sunlight) and the amount of physical exercise stable year round (i.e. maintaining approximately the same amount of time each day spent in exercise and bright light exposure; time out of doors without sunglasses on)

Note: Lifestyle management strategies are discussed in detail in the two following books; both are written by me and co-author, Julie Fast. Ms. Fast suffers from bipolar disorder and in these two books we present information from both a professional and a more personal perspective.

Take Charge of Bipolar Disorder: *A four –Step Plan for You and Your Loved Ones to Manage the illness and Create Lasting Stability.* Time-Warner Publications.

Loving Someone with Bipolar Disorder. New Harbinger Publications

Both are Available from Amazon.com

Medication Treatments

General references:

Practice Guidelines:

1. American Psychiatric Association

   http://www.psychiatryonline.com/pracGuideHome.aspx

2. Texas Department of Mental Health: Texas Medication Algorithm Project

   www.dshs.state.tx.us/mhprograms/TMAPover.shtm

3. Systematic Treatment Enhancement Program For Bipolar Disorder: National Institute of Mental Health

   www.nimh.nih.gov/health/trials/practical/step-bd/index.shtml

Primary References

1. Goodwin, F. and Jamison, K. (2007) Manic Depressive Illnesses. Oxford University Press: New York
2. Preston, J. O'Neal, J. and Talaga, M. (2010) Handbook of Clinical Psychopharmacology for Therapists. Sixth Edition. New Harbinger: Oakland
3. Preston, J., O'Neal, J. and Talaga, M. (2010) Child and Adolescent Psychopharmacology Made Simple. New Harbinger: Oakland

All are Available on Amazon.com

General Considerations

The choice of medications used to treat bipolar disorder depends on the mood state the patient is currently experiencing (i.e. whether it is mania or depression). In addition, the medication choice always must take into consideration the ultimate, long-term goal of preventing recurrences.

Currently there are twelve medications that are approved by the Food and Drug Administration (FDA) for the treatment of bipolar disorder: lithium, Depakote, Lamictal, Equetro,Thorazine, Risperdal, Seroquel, Abilify, Geodon, Saphris, Symbyax, and Zyprexa. However, a number of other highly effective drugs are in common use. The use of medications not approved by FDA for the treatment of certain conditions is referred to as “off label use”…and it must be emphasized that off label use of medications is very common practice in every branch of medicine.

A recent large-scaled study revealed that only 11% of people being treated for bipolar disorder are taking just a single drug (i.e. mono-therapy); thus, this is the exception and not the rule. On average, most people being successfully treated are taking 3 or 4 medications simultaneously. The reason for this is simple: medication combinations are often clearly superior to mono-therapy for most people suffering from bipolar disorder.

All medications have side effects and unfortunately the drugs used to treat bipolar disorder are known to produce significant side effects for the majority of people being treated. Side effects, at times are mild and easy to tolerate. But often they are more noticeable and in rare instances they can be dangerous. In every single case, once the current mood episode has subsided, people with bipolar disorder must continue to take bipolar medications to help prevent or reduce the likelihood of recurrence. This is absolutely essential! However, some estimates suggest that as many as 90% of people who start medical treatment for bipolar disorder will recover from their first episode, but within weeks or several months, will stop taking the medications (against medical advice). Generally the rates of medication compliance improve after people experience recurring episodes; they come to appreciate the need for continuous medical treatment. However, over longer periods of time the compliance rate is about 50%; many people do not take medications as prescribed, and this accounts for increasing numbers of episodes. The most common reasons for doing not taking medications are understandable: 1. patients are plagued by unpleasant side effects and/or 2. they conclude that the episode they experienced is not really bipolar disorder, but was just a

single episode and that there will not be recurrences. This conclusion is borne of hopefulness that this is not really going to be a recurring illness.

These reasons for discontinuing the medication are entirely understandable, but they almost invariably lead to the emergence of another episode (this may occur within a few months following the initial episode, but more commonly occurs one to two years later).

For many patients, taking medications when you feel well is counter-intuitive. However, the picture is clear that bipolar disorder is *always* recurring, and over a period of time there is often a tendency for episodes to become increasingly severe and harder to treat. There is also research that reveals that untreated or poorly treated bipolar illness can ultimately result in lasting damage to the nervous system (especially in brain structures that are responsible for the regulation of emotions). During mood episodes there are often toxic levels of certain neurotransmitters (e.g. glutamate) and stress hormones (e.g. cortisol) that are released that can damage nerve cells. Fortunately, studies also reveal that on-going treatment with some bipolar medications may prevent this from happening. In a very real sense, some of these drugs (e.g. lithium and Depakote) appear to be “neuro-protective”.

Many side effects can be managed by dosage adjustments or by switching to other medications. This is one reason that most times people will need to go through systematic trials on a variety of medications to determine which ones are the most effective and also which drugs are best tolerated for any given individual. Every effort should be made to find the right medication or medication combinations in an attempt to minimize side effects. And this is often something that can be accomplished. However, it is often the case that it takes six months to a year of trials on various medications to finally discover the specific medication or medication combinations that will be effective and that will be best tolerated. This is the rule and not the exception…it is very important for patients to not feel too discouraged if the first medications used are less than optimally effective or that they have problematic side effects. A sign of a competent and compassionate psychiatrist is their willingness to be persistent in carrying out systematic medication trials until the best treatment is finally identified. Sometimes side effects can be minimized however, many people end up having to find ways to tolerate some side effects. Obviously, this is not pleasant, but is ultimately necessary to reduce or eliminate severe mood swings. And unfortunately, a very small number of people are simply unable to tolerate any bipolar medications.

Medication Treatments: What are Realistic Outcomes?

Bipolar disorder is like a number of other chronic medical conditions (such as diabetes, asthma, arthritis, etc.). It is not a condition that can be cured by currently available medications. However, the medications discussed below are effective in relieving many of the more serious symptoms of bipolar illness and often can reduce the frequency of mood episodes for most people, if patients receive appropriate treatment and stick with it. Good news and not so good news: with aggressive, appropriate, and on-going medication treatment, and if the treatment is started during the first or second mood episode, about 20-30% of people will not experience recurrences. That is, in about one out of four people the medications are successful in preventing relapses (please note: if the first appropriate medical treatments begin after the second episode, typically treatment becomes somewhat more challenging and the outcomes are not quite as robust). However, for the majority of other people receiving treatment, the recurrence rates for severe episodes can be reduced by about 75% and hospitalizations can often be avoided. Subsequent episodes that do occur tend to be mild depressions and hypomanias. However it must be emphasized that *at least half* of people being treated for bipolar disorder are chronically non-compliant with medication treatments. The main cause of recurrent episodes is a failure to take medications as prescribed on a long-term basis. And I must say once again, these medications are hard to take owing to what sometimes are very unpleasant side effects.

Medication treatments are far from perfect, but it is the kind of effectiveness that can substantially reduce suffering, keep families together, avoid catastrophes and save lives.

Bipolar Medications: Fast Facts

Note: The following is an overview. Detailed information on dosing , drug interactions, and side effects are listed in Part 3 of this book.

There are three major classes of psychiatric medications that have been found to be effective in treating various symptoms of bipolar disorder (lithium, mood stabilizing anticonvulsants and atypical antipsychotics). In addition, there are a number of other drugs that do not treat bipolar per se, but are often used as adjunct medications that reduce some side effects of the bipolar medicines and/or treat psychiatric disorders that commonly co-occur with bipolar disorder. The medications listed below are FDA approved drugs and commonly used off label medicines. Generic and brand names (registered trademarks) are listed below. In each case the generic name is listed first.

Lithium: Eskalith, Lithonate

Anticonvulsant mood stabilizers:

1. Divalproex Depakote
2. Carbamazepine Tegretol
3. Oxcarbazepine Trileptal
4. Lamotrigine Lamictal

Atypical Antipsychotics (the name commonly used for a class of newly developed antipsychotic medications that treat psychotic symptoms and also are anti-manic). On occasion an older antipsychotic, haloperidol (Haldol) is sometimes used to treat mania.

1. Olanzapine: Zyprexa
2. Risperidone: Risperdal
3. Ziprasidone: Geodon
4. Aripiprazole: Abilify

5. Quetiapine: Seroquel
6, Paliperidione: Invega
7. Asenapine: Saphris
8. Iloperidone: Fanapt
9. Lurasidone: Latuda
10. Clozapine: Clozaril

Adjunct Medications:

sometimes used in the treatment of bipolar disorder

Antidepressants There is general agreement that the use of antidepressants to treat bipolar disorder is fraught with potential problems. Antidepressants can provoke manic episodes and may increase the frequency of episodes. And antidepressants are often simply ineffective in treating bipolar depression. The greatest risk lies with the treatment of bipolar I disorder where antidepressants may cause switching, provoking a severe manic episode. Antidepressants are never a first-line treatment option and should only be used with caution. Those that are occasionally used are listed below.

1. Fluoxetine: Prozac, Sarafem
2. Bupropion: Wellbutrin
3. Sertraline: Zoloft
4. Paroxetine: Paxil
5. Venlafaxine: Effexor
6. Nefazodone: Serzone
7. Mirtazapine: Remeron
8. Citalopram: Celexa
9. Escitalopram: Lexapro
10. Duloxetine: Cymbalta
11. Vilazodone: Viibryd
12. Phenelzine: Nardil *
13. Tranylcypromine: Parnate *

14. Selegiline: Emsam *

Those with * are MAO inhibitors

Calcium Channel Blockers

1. Verapamil Calan, Isoptin
2. Nimodipine Nimotop

Benzodiazepines (also referred to as minor tranquilizers or anti-anxiety drugs; those listed below are those in most common use)

1. Clonazepam : Klonopin
2. Lorazepam: Ativan

Note: Alprazolam, brand name, Xanax is a tranquilizer, however it should not be used in the treatment of bipolar disorder. It can increase manic symptoms can aggravate mania.

Benzodiazepine Sleeping Pills:

1. Temazepam: Restoril
2. Triazolam: Halcion
3. Zolpidem: Ambien
4. Zaleplon: Sonata

Non-benzodiazepine sleeping pills

1. Ramenteon: Rozerem (activates melatonin receptors)
2. Diphenhydramine: Benedryl (over-the-counter antihistamine)

Assorted Medications

1. Topiramate: Topamax: used to reduce weight (many bipolar medications cause significant weight gain and Topamax can combat the weight gain)
2. Gabapentin: Neurontin: treats anxiety
3. Omega-3 fatty acids: omega-3 derived from fish oil has been shown to reduce depression in some individuals. However its effectiveness in bipolar disorder has not been demonstrated.

Over-the Counter : St. John's Wort and SAMe are over-the-counter antidepressants. These products can treat some forms of depression however, should ***only be taken under medical supervision***. Both have been shown to provoke manic episodes in those with bipolar disorder.

Targets for Medication Treatment

There are three primary goals in medication treatment of bipolar disorder: dealing with potentially dangerous emergency issues (e.g. extremely severe agitation or suicidal impulses), resolving the current episode (whether mania or depression), and relapse prevention. The choice of medications used always will be influenced by these goals. In addition, and obviously the medication choice will also be dictated by the need to minimize side effects.

Getting Started with Medication Treatment:

Emergency Medication Treatments and Laboratory Tests

Sometimes there is a need for emergency treatment; for example if a person is experiencing a sudden onset of severe manic agitation (which may include extreme restlessness, impulsivity, severely impaired judgment and/or aggression) or serious suicidal impulses during a depressive or dysphoric manic episode. At such times acute medical treatment may be necessary.

When there is such a crisis, hospitalization almost always is necessary. Emergency medical treatments for agitation include the use of either

benzodiazepines (anti-anxiety tranquilizers, such as Ativan, or Klonopin) or antipsychotic medications (such as Zyprexa, Risperdal, or Haldol). These two classes of drugs are often very effective in rapidly reducing agitation. On occasion there is a need for emergency medical treatment for very severe depression (where there is either a grave suicide risk or refusal to eat accompanied by severe weight loss). In such cases ECT (electro-convulsive therapy; “shock” treatments) can be successfully used. ECT is also very effective for the emergency treatment of severe mania although it is rarely used for this purpose.

If the situation is not extremely urgent, then it is commonplace to order some pre-treatment laboratory tests. This is done for three purposes. The first is to rule out the possibility that the mood symptoms may be caused by a primary medical illness (such as thyroid disease). Lab tests can be used to screen for substance abuse (e.g. methamphetamine can present as mania).The final reason has to do with the tendency for many of the bipolar medications to cause significant changes in a variety of bodily functions. Mood stabilizers in particular are known to affect a broad range of organs and glands especially when they are taken for prolonged periods of time. Thus typically, pre-treatment labs include measures of cardiac, kidney, liver and thyroid functioning as well as a complete blood count. Laboratory monitoring of blood levels of certain medications may also be required. This is routinely done for the following mood stabilizing medications: lithium, Tegretol, Trileptal, and Depakote (see the side bar, “Dosing and Blood Levels”)

----------SIDE BAR----------

“Too much drug…Too little drug”
Medication Dosing and Blood Levels

For each psychiatric medication listed in the part three of this book you will see listed the typical adult daily doses. In many instances the “therapeutic dosage range” is broad. For example, daily dosing with lithium is between 600 and 2400 mg. It is important to know that the amount of medication required to effectively reduce and eliminate symptoms often has little to do with how severe the mood episode is. And what matters is not so much how much is ingested but rather, how much of the medication enters the blood stream.

There are three primary factors that influence the amount of drug that finds its way into the blood stream. First is the rate of liver metabolism. Bipolar medications are absorbed through the walls of the stomach and small intestines and go directly to the liver. Here the drug molecules are acted upon by liver enzymes that begin a process generally referred to as biotransformation. Liver enzymes chemically alter the medication in ways that allow the drug to be more readily excreted from the body. The liver's function is to detoxify the body. Thus in this so-called first pass effect through the liver, a good deal of the drug is transformed and then rapidly excreted. However, some of the medication initially escapes this process, makes its way through the liver and into circulation and thus is allowed to begin accumulating in the blood stream. How rapidly the liver metabolizes drugs depends on a number of factors. This resulting blood level is what matters when it comes to reducing symptoms. (note: lithium is not metabolized in the liver).

Genes play a significant role in this process. A small percentage of people are known as rapid metabolizers. They take certain drugs and then eliminate them very quickly. The result is that even though they may be taking what seems like an adequate dose of the medication, little actually gets into the blood stream. Once it is discovered that someone is a rapid metabolizer, then usually they are prescribed very high doses of medications and eventually enough gets into the blood stream to be effective. Again, this has nothing to do with how severely ill they are …it's just a matter of the liver's metabolic rate. Conversely are hypo-metabolizers (slow metabolic rate). This also small percentage of people, have fewer than average liver enzymes. The effect is that they can take a dose of a medication, and on its trip through the liver, only small amounts are transformed and excreted. The result is often very high blood levels of the medication and severe side effects or toxicity. The ultimate solution for hypo-metabolizers thus is to start treatment with very small doses and then gradually increase the dose. Sometimes when a person is first treated they will experience serious side effects and this may be due to hypo-metabolizing. It is often hard to know ahead of time if this will happen with any one given individual. Thus if a person has had an experience of encountering very intense side effects with other medications in the past, one may anticipate that they are a hypo-metabolizer, and thus initial dosing is done gradually.

A second factor determining blood levels of medications is the functioning of the kidney. Sometimes genetic factors play a role here too, but more often problems can occur due to kidney disease. Thus, for some bipolar medications, pre-treatment labs will include an assessment of

kidney functioning (this is especially important for patients being treated with lithium).

Finally, a number of drugs can adversely affect liver metabolism and thus alter medication blood levels. Here is where drug-drug interactions can cause significant problems. This applies to some prescription drugs, over-the-counter drugs, herbal and dietary supplement products and recreational drugs. The use of prescription drugs must be carefully monitored by the treating physician. In addition, even modest amounts of alcohol can have significant affects on the liver. St. John's Wort, a popular herbal product for the treatment of depression, is well known for causing some very significant changes in liver metabolism.

Caution! The use of Tegretol, Trileptal, Topamax or St. John's Wort can interfere with the effectiveness of birth control pills. This is especially important to monitor since some bipolar drugs are known to cause birth defects.

Treatment Guidelines: Mania

Several classes of psychiatric medications have been found to be effective in treating acute manic episodes (most are FDA approved, and some are "off-label").

1. **Lithium**
2. **Mood stabilizing anticonvulsants**:

   Depakote, Tegretol, Equetro,and Trileptal
3. **Atypical antipsychotics**

   Zyprexa, Risperdal, Abilify, Seroquel, Geodon, Saphris, Fanapt, Latuda, Invega and Haldol (Haldol is an older generation antipsychotic that is sometimes used).
4. **Calcium Channel Blockers:**

   Verapamil and Nimodipine
5. **Benzodiazepines** (minor tranquilizers):

Benzodiazepines and antipsychotic medications are given initially to reduce severe agitation. The goal here is to achieve behavioral control within a few hours. The anti-manic medications (e.g. lithium and anticonvulsants) require 7-10 days of treatment before you see an onset of action and symptom reduction. Once symptoms begin to be reduced, continued treatment for several weeks will often be necessary to eliminate acute manic symptoms. As noted earlier, most people will ultimately be treated with 3 or 4 medications simultaneously to achieve the best outcomes.

There are three stages in the medical treatment of mania:

1. Reduce extreme agitation (the goal is to get agitation under control within a few hours). Severe agitation can be dangerous to the patient as well as to others around them and this must be addressed as soon as possible.

2. Reduce or eliminate core manic symptoms such as restlessness, sleeplessness, rapid speech, paranoid ideas, psychotic symptoms, etc.

3. Begin treatment for relapse prevention.

Stage One: Antipsychotic medications and benzodiazepines are the best medications for treating acute agitation; they quickly produce substantial sedation, calming, or sleep. It is important to note that although antipsychotic medications do successfully treat psychotic symptoms (such as hallucinations and delusions) they are also excellent anti-manic agents. Most anti-manic drugs require the 7-10 day period of time before symptom reduction, but with one notable exception: the anticonvulsant drug Depakote. Depakote, when given in large doses, can begin to show anti-manic effects in about 4 days. Once severe agitation has subsided, often benzodiazepines are gradually reduced and then within a few days are discontinued. This may also be true for antipsychotic medications. However, there are times when antipsychotic drugs may continue to be used for a more prolonged period of time.

During stage one of treatment, as mentioned above, a number of lab tests are often done to monitor the early effects of the drugs.

Stage Two: The choice of medications used to treat core symptoms of mania is important and often complex. As noted above, there are several different types of mania and a considerable amount of research has been done to discover which medications are best suited for treating particular subtypes of mania. Dozens of large-scale research studies have

been conducted in recent years and specific treatment guidelines have been developed that are useful in helping physicians to decide on initial medication choices (see below). However, the fact is that each person will have a number of factors unique to them that will influence the choice of medications, such as age, gender, body weight, history of allergies to medications, liver metabolism rate, the presence or absence of other medical conditions and other medicines being used to treat such conditions.

Here is the truth: the pathway to recovery and good outcomes, more often than not, is complicated. The rule, not the exception is that people will be tried on several if not many medications in the search for the right drug or medication combinations. As noted earlier, it is so important to understand this and not conclude that the frequent changes in medications are necessarily a reason for concern. The fact is that bipolar disorder is challenging to treat and often requires a considerable amount of time systematically trying various medications before the right medications combinations are found.

"Classic Mania" (with euphoria, expansiveness, up-beat mood, delusions of grandeur, etc.) has been found to respond best to treatment with lithium or Depakote (other anticonvulsant mood stabilizers or atypical antipsychotic medications often can treat classic mania, but in head-to-head comparisons, lithium and Depakote appear to be the best first-line medications for this type of mania). Having said that, it is true that there is no clear leader in terms of efficacy for classic mania. Generally during stage two of treatment, especially if this is a person's first episode of mania, just one of these medications will be prescribed. Assuming that the medication is tolerated (i.e. that side effects are mild or manageable) treatment will continue for a period of several weeks. As mentioned earlier, 89% of people being successfully treated for bipolar disorder ultimately must take two or more medications at the same time to adequately treat mania. Thus it is possible that the one medicine initially prescribed may be tolerated and may eventually be effective. Decisions to increase the dose or to change or add another medication in the ensuing weeks will depend on tolerability and effectiveness. Since there can be possible drug-drug interactions, then generally the recommended approach is to first optimize treatment with one medication (which means to progressively increase the dose while always being watchful for the emergence of side effects). What is hoped for is that the first signs of symptomatic change will occur during the first 7-10 days and that symptomatic improvement will continue to unfold over the next few weeks. Just how long it takes to fully resolve a manic episode varies from one individual to another.

Should side effects be significant, typically there will be either a dosage adjustment or possibly a change to another medication. If side effects are mild and tolerable, but there is only partial improvement in symptoms after several weeks of treatment, then a decision will be made to either change to a different medication or to add another medication (the addition of medications is commonly referred to as *augmentation*). Medications typically used for augmentation include anticonvulsants and/or antipsychotic medications.

Dysphoric or Mixed Mania: (agitation, decreased need for sleep, rapid speech, feelings of despair, hopelessness, etc.). There is some controversy regarding the treatment of dysphoric mania. However, most experts agree that the best first-line medication is Depakote. Some people experiencing dysphoric mania do have positive responses to lithium as a mono-therapy. The use of just one medication again, generally is the initial strategy and again, before adding or changing medications, the drug used will be optimized. As in the treatment of classic mania, we are looking for the first signs of improvement within the first 7-10 days.

If after several weeks of treatment and if increased doses of the medication yield only partial symptomatic improvement then augmentation can be used. Often the first augmentation strategy is to combine Depakote and lithium. If other medications are required then the addition of the following are commonly prescribed: anticonvulsants: Tegretol, or Trileptal. Other choices include atypical antipsychotics.

The treatment of childhood-onset bipolar disorder is beyond the scope of this book, however a few brief comments will be made. When mania occurs in pre-pubertal children, it almost always presents as a form of dysphoric mania with rapid cycling and marked irritability. With adults the general strategy is to begin treatment with one anti-manic drug and only later add additional medicines if they are needed. This is done with the intention of avoiding unnecessary side effects that occur when multiple drugs are prescribed. Obviously there are compelling reasons for wanting to minimize side effects in children, as well. However, preliminary research has rather strongly indicated that most children suffering from mania ultimately end up taking two or more anti-manic medications (this is required for most to effectively eliminate manic symptoms). Thus there currently is a trend to begin treatment with children using two drugs (often this combination is Depakote and lithium). It is generally felt that the much higher success rate with two mood stabilizers outweighs the added side effects of using two drugs. Also, it is felt that the earlier you can put a lid on mania and arrest its development, the better…to do so matters not only

regarding the current episode but may also have a positive effect on reducing the severity of future episodes.

Rapid Cycling: As mentioned above, rapid cycling generally is a period of time lasting anywhere from a few months to a year or year and a half where there is a significant increase in the frequency and often severity of mood episodes. In only about 2% of people is rapid cycling continuous for very prolonged periods of time. Three factors account for the majority of cases of rapid cycling: substance abuse (including alcohol), the use of certain prescription medications (e.g. antidepressants, steroids, stimulants), or disorders of the thyroid gland. Thus it is very important to determine whether or not any of these factors are present and take appropriate action to ameliorate them. Beyond this, special attention must be taken to stabilize the patient's lifestyle, especially making sure that there is regularity to ones sleep patterns and making every attempt to reduce or avoid sleep deprivation (e.g. establishing regular bed and awakening times, completely avoiding sleep destroying substances such as caffeine, alcohol and decongestants, no pulling all-nighter cramming for exams or late night partying).

Beyond these strategies, the following medication strategies have been found to be helpful. Preferred anti-manic drugs that address rapid cycling include: Lamictal and Depakote. Atypical antipsychotic medications are frequently also prescribed.

Treatment-Resistant Mania

For people that experience very severe mania that does not respond to more traditional treatments there are a number of options.

The antipsychotic medication clozapine (brand name Clozaril) has been found to be effective in some cases of treatment resistant mania. This drug has antipsychotic effects (e.g. for treating hallucinations, delusions, etc.). It also is proving to be effective for treating not only mania but also for relapse prevention. Unfortunately Clozaril is plagued by numerous, significant side effects, some of which are potentially dangerous. ECT (electro-convulsive therapy) is a safe and highly effective treatment for severe mania (see side bar).

----------Side Bar----------

ECT: Electro-Convulsive Therapy

ECT (electro-convulsive therapy) was developed in the late 1930s and has experienced a checkered history. ECT involves the use of an electric current that is delivered by way of two electrodes placed on the frontal area of the skull. The electrical current produces a grand mal seizure and there is evidence that the seizure is responsible for rapidly altering the chemistry of the brain. The changes in brain chemistry are remarkably similar to that seen as a result of psychiatric medication treatments, although such changes typically occur after only a few days and a few treatments, when medications generally require a number of weeks to yield such changes.

In the early days ECT was a very crude medical technology. The treatment unfortunately, was administered in ways that resulted in a multitude of serious medical and neurologic consequences, including spinal fractures, cardiac arrests and persistent memory problems. But it was also clear from the outset, that this was a powerful treatment that often resulted in rapid and significant improvement in patients suffering from very severe mania and depression.

There have been significant advances in the way ECT is administered. Currently ECT is administered to the patient under a general anesthetic while being monitored by an anesthesiologist. The procedure is completely painless and is judged to be safe. Muscle relaxing drugs and the general anesthesia help to prevent the medical problems encountered in the early days of ECT. Memory loss does occur following the treatments (primarily forgetfulness), but almost without exception, memory problems completely remit within six weeks after the final treatment. ECT can resolve acute, severe mood states, however, once the treatments end, within a few weeks most patients will slip back into a depression or mania. However, the preferred strategy is to give ECT while also administering mood-stabilizing medications; the drugs help to prevent acute relapse.

ECT is considered to be a treatment of last resort, primarily because of the costs involved, but it remains an important and often life-saving technique for treating both manias and severe depressions of bipolar illness.

Stage Three: Relapse prevention

Once the current manic episode is completely controlled it is common practice to continue medications, even though there are no obvious symptoms. This is necessary because it is clear that once symptoms subside, if one discontinues then, the acute relapse rate can be as high as 85%. Thus for a period of several months, typically, medication treatment is continued and often at the same doses used during treatment of the acute phase of the episode. This phase of treatment appropriately is called *continuation treatment*. After several months, assuming there have been no "breakthrough" symptoms, then the next stage of treatment, *maintenance treatment* begins. Here the focus of treatment is on the prevention of recurrent episodes. Often if a person has been receiving lithium, the dose is gradually reduced (which can result in fewer side effects). The doses of other medications may also be reduced, however such a decision is highly individual and is influenced by a number of factors including a person's clinical history and the presence of particular side effects.

In general, the medications used to treat mania are considered to be very effective for most people experiencing a manic episode (Note: this is true for bipolar mania seen in patients who have an adolescent or adult-onset illness. Mania in pre-pubertal children is significantly more difficult to treat). However, the long-term goal of preventing recurrences is more challenging. Despite the fact that there have been decades of experience in treating bipolar illness, there are no good long-term studies on relapse prevention (the longest studies available only extend to 12 to 18 months!)). Yet this is a life-long illness and all experts agree that life-long treatment is required. It is important to know that most medications used to treat bipolar disorder do have side effects that may emerge with very long-term use. Thus necessitating periodic lab tests to monitor blood and various glands and organ system functioning. What is clear is that failure to treat (or to adequately treat) bipolar disorder almost always leads to disasters.

The medications for which the best data exist for long-term maintenance treatment are the following: lithium (the best data), Depakote, Tegretol, and Zyprexa. Most people on maintenance treatment will continue to take several medications. However, longer-term treatments generally do *not* include treatment with benzodiazepines or antidepressants.

Treatment Guidelines: Bipolar Depression

Several classes of psychiatric medications are often used to treat bipolar depression:

Lithium (must have lithium blood levels at or above 0.8)

Lamictal

Symbyax (a medication that combines Zyprexa and Prozac)

Atypical antipsychotic medications may have antidepressant properties: Seroquel and Abilify,

Antidepressants: can destabilize bipolar disorder and may cause switching to mania. Generally not indicated in the treatment of bipolar disorder (especially problematic in Bipolar I disorder). Antidepressants that have some empirical support include: Prozac and Monoamine Oxidase Inhibitors (MAOIs): Parnate and Nardil. Antidepressants should never be given alone (i.e. must be prescribed along with an anti-manic medication such as Depakote or lithium).

It is important to know that bipolar depressions are often difficult to treat. Treatment guidelines have been developed by the American Psychiatric Association and the Texas Department of Mental Health (Texas Medication Algorithm Project). However, there is a significant amount of controversy in the field regarding the best approaches for treating this aspect of bipolar disorder. The biggest issue is that many treatments that ordinarily are effective in reducing depression carry a risk of provoking manic episodes (a phenomenon referred to as switching) or causing cycle acceleration (this refers to a gradual, over-all worsening of bipolar disorder in which, over time, there is an increased frequency of episodes and episodes tend to become more severe and more difficult to treat). Switching and cycle acceleration have been clearly documented with the use of first-generation tricyclic antidepressants (see below) and thus these drugs are almost never used in the treatment of bipolar depression. Excessive bright light exposure (which can treat some types of seasonal depression) has also been associated provoking manias. Additionally, two popular over-the-counter products that have antidepressant properties can, likewise, cause switching or cycle acceleration: St. John's Wort and SAM-e

First-Generation Antidepressants: (should **not** be used in treating bipolar disorder)

<u>Brand names</u>

Tofranil

Norpramin

Elavil

Aventyl

Pamelor

Vivactil

Surmontil

Sinequan

Adapin

Ludiomil

Asendin

Bipolar Depression: There are also three stages in the treatment of bipolar depression.

Stage One: In the event of life threatening symptoms such as strong suicidal impulses or refusal to eat, ECT is a highly effective treatment. The treatment approach is much the same as used to treat acute mania (see side bar). The other emergency treatment is hospitalization. Unfortunately aside from ECT most approaches to treating depression require several weeks before one is likely to see symptomatic improvement.

Stage Two: The choice of medication is dictated primarily by whether or not there has been a history of rapid cycling or switching to mania when being treated by antidepressants. If there has ever been rapid cycling, then the risks of cycle acceleration and/or switching are much higher, and thus antidepressant medications are generally avoided. Thus the following are recommended guidelines

Start with a medication that has been found to have antidepressant actions. The drug that has the best track record of effectiveness is Seroquel. Another commonly used medication is Lamictal (however, there is an important consideration when using Lamictal: as treatment is begun, it is required that Lamictal be given in small doses and that dosage changes are done very gradually during the first 4-6 weeks of treatment. This is done to avoid inducing a potentially dangerous rash [Stevens-Johnson Syndrome] that is more common if there is rapid dose escalation).

If treatment with Seroquel or Lamictal is not successful or there is a partial response then there are several options:

1. Combine both Lamictal and Seroquel
2. Add or switch to Symbyax
3. Lithium alone or in combination with one of the aforementioned medications.

4. Antidepressant combined with one of the following: Seroquel, lithium or one of the other anti-manic drugs

The use of antidepressants should only be considered if all other standard treatments have failed.

Adjunctive Therapies:

Bright light therapy (using a commercially available light box which generates 10,000 lux of light intensity for 10-30 minutes a day) has been used for treating bipolar depression, especially for those who routinely have winter depressions or who work the night shift. This treatment is typically combined with medication treatments and like all treatments for depression; it too carries a risk of provoking mania in people with bipolar disorder.

Exercise therapy has been shown to be effective in treating major depression, however, to date there are no studies of this approach in treating bipolar depression.

Stage Three: This is much the same as stage three treatments for mania. Among the bipolar medications that have the best record of effectiveness in the *prevention* of depressive episodes, Lamictal appears to be the front-runner.

Psychotherapy

Although medication treatment is the backbone of successful therapy for bipolar, a number of studies have clearly shown that psychotherapy can significantly contribute to better treatment outcomes. A detailed discussion of research on psychotherapy for bipolar disorder can be found in the American Psychiatric Association practice guidelines (their web site address was mentioned earlier)

Part Three: Medications for Bipolar Disorder: Detailed Reference Guide

Lithium

Lithium Facts:

> the drug with the best track record in preventing recurrences of episodes.

> lithium is a naturally occurring element

> lithium is the only psychiatric drug proven to substantially reduce the incidence of suicide

Brand Names:

Lithium carbonate: Lithotabs, Eskalith, Lithonate, Lithane,
Carbolith, Lithobid, Duralith

Lithium citrate: Cibalith

Uses: treats mania, bipolar depression and is used to reduce recurrences of mania and depression

Typical Adult Daily Doses (Eskalith or Lithonate: most commonly prescribed): 600-2400 mg. per day. Note: what matters with lithium treatment is not the dose, per se, but the blood level (which is carefully monitored). A lithium level between 0.8 and 1.2 mEq/l (mEq/l is the technical designation for what is commonly called the *lithium level*) is generally considered to be in the therapeutic range for treating mania. Once the manic episode is resolved, then it is common practice to lower the dose to establish a blood level somewhere between 0.6 and 0.8 mEq/l. Blood levels above 1.2 are associated with significant side effects, and levels above 2.0 can be dangerous.

Onset of effects (how long it takes to start working): generally 7-10 days

Laboratory Tests:

Prior to starting treatment with some medications, laboratory tests are required to establish baseline measures of the functioning of certain bodily systems. The following are typically required prior to starting treatment (and those with an * will need to be monitored periodically during treatment).

ECG (EKG)*, electrolytes, complete blood count, kidney function tests (BUN, creatinine, urinalysis), thyroid tests*, calcium*, pregnancy test (optional).

Laboratory Tests routinely done on an on-going basis:

Those tests above flagged with an asterisk are repeated periodically. In addition it is necessary to periodically check lithium blood levels. This is done frequently during the first weeks of treatment and when there are significant changes in dosage. Once a person is stabilized on lithium for several months, lithium levels will then be checked less often (e.g. 3-4 times a year).

Common Side Effects:

Nausea or heartburn

Muscle tremor or weakness

Decreased sex drive

Lethargy, drowsiness (may impair the ability to safely drive an automobile)

Difficulty concentrating

Weight gain

Increased thirst and frequency of urination

Rash or acne

Less Common Side Effects (these should be reported to your doctor immediately)

Loss of balance

Double vision

Vomiting

Diarrhea

Slurred speech

Trembling

Rare or potentially dangerous (if these occur, immediately contact your doctor)

Soreness of mouth, throat or gums
Severe rash or itchiness
Swelling of the neck or face
Severe: nausea, vomiting, weakness, fever, flu-like symptoms
Marked increase in thirst and very frequent urination

Habit –Forming / Addiction Potential: none

Interactions with other medications:

Here listed are only the most common medications with which the drug may cause adverse interactions.

diuretics (water pills)
calcium channel blockers
ACE inhibitors
Non-steroidal anti-inflammatory pain medications such as ibupropin
Theophylline

Safety during pregnancy: lithium is generally considered to be safe for use during pregnancy, however there is a slight risk for a rare birth defect (Ebstein's anomaly, a heart defect) if taken during the first trimester. This occurs 0.1-0.2% of fetuses exposed to lithium. If you are planning to get pregnant or suspect that you may be pregnant, contact your doctor. It is noteworthy that this birth defect was identified in the 1970s but this finding has not been found in subsequent studies. Despite this almost all obstetricians will warn against the use of lithium especially

during the first trimester

Breast feeding: not recommended when taking lithium

Special Concerns

Lithium is a very dangerous drug if taken in an accidental or intentional over-dose. In the event of an over-dose seek immediate medical attention.

Anticonvulsant Bipolar Medications

Anticonvulsant Facts

Anticonvulsants are medications originally developed to treat epilepsy. It was only by accident that it was discovered that some anticonvulsants also have the ability to treat mania. In addition the anticonvulsant Lamictal, which does not treat mania has antidepressant actions and can be used to treat bipolar depressive episodes. It is also FDA approved to use to prevent recurrence of depressive episodes'

Anticonvulsant Bipolar Medications: Generic and Brand Names and typical adult daily doses:

divalproex	Depakote	750- 1500 mg.
carbamazepine	Tegretol	600-1600 mg.
	Equetro*	A sustained release formulation of carbamazepine
oxcarbazepine	Trileptal	1200-2400 mg.
lamotrigine	Lamictal	50-500 mg.

Uses: All treat mania with the exception of Lamictal which is used to treat bipolar depression.

Therapeutic blood levels: three of the anticonvulsant mood stabilizers must be periodically monitored to check the levels of medication present in blood.

Depakote blood levels:	50-125 mcg/ml
Tegretol (and Equetro) blood levels:	4-12 mcg/ml
Trileptal blood levels:	not yet established
Lamictal blood levels:	not necessary to monitor

Onset of effects: generally 7-10 days (one exception: if high doses of Depakote are administered, effects can be seen in four days)

Laboratory Tests:

Required for: Depakote, Tegretol, Equetro, and Trileptal. Specific tests depend on which drug is used, but often include the following:

Complete blood count, platelets, electrolytes, cholesterol, triglycerides, sonogram of ovaries (optional: for females under the age of 20 treated with Depakote), liver function tests, ECG (EKG), pregnancy test. Pre-treatment labs are generally not required for Lamictal

Laboratory Tests routinely done in an ongoing basis

Tegretol, Equetro, Depakote and Trileptal blood levels must be monitored (especially during the initial weeks of treatment). Generally once a person is stabilized on Depakote or Trileptal, blood level monitoring is not necessary. However, those treated with Tegretol or Equetro must have periodic and on-going monitoring of medication blood levels.

On-going lab test are generally not required for Lamictal

Common Side Effects (each medication has specific side effects, however listed here are side effects that can be seen in most of the anticonvulsants).

Drowsiness, lethargy

Mild dizziness

Unsteadiness when standing or walking

Difficulty concentrating

Blurred vision

Dry mouth

Muscle tremor

Nausea or heartburn

Weight gain (can occur in all except Lamictal)

Changes in menstrual cycle

Decreased sex drive

Less Common Side Effects (should be reported to your doctor)

Infertility problems (seen with some women under the age of 20 treated with Depakote), also accompanied by menstrual irregularities.

Abnormal hair growth in females (e.g. facial hair)

Changes in hair: hair loss (usually transient) or changes in hair texture

Rash or itching

Rare or potentially dangerous (if these occur immediately contact your doctor)

Skin rash (mild rashes are fairly common, but a rash that is severe and rapidly increases in severity [especially with Lamictal but also seen albeit rarely, with all of these anticonvulsants] should be reported to your doctor immediately. Potentially dangerous rashes often occur on the face and neck and are accompanied by a fever.

Confusion

Yellow tint to skin or eyes

Severe problems with balance and dizziness

Soreness of mouth, throat or gums

Easily bleeding or bruising

Severe nausea, vomiting, and abdominal pain

Habit-Forming / Addiction Potential: none

Interactions with other medicines (varies depending on the specific drug):

Birth control pills (especially with Tegretol)

Anticoagulants (blood thinners)

Aspirin (moderate to high doses)

Cimetidine (Tagamet)

Antibiotics (especially with Tegretol)

Calcium channel blockers

Propoxyphene (Darvon) (especially with Tegretol)

Antidepressants (anticonvulsant mood stabilizers are often prescribed for patients who are also taking antidepressants…generally there are no problems unless the antidepressant doses are high)

Antacids: may affect the absorption of some anticonvulsants

Safety during pregnancy: there is a risk of birth defects when taking anticonvulsant mood stabilizers during pregnancy (especially the first trimester). Most psychiatrists do not prescribe these medications during pregnancy. One exception is Lamictal that is generally considered to be safe during pregnancy.

Breast feeding: not recommended when taking anticonvulsants

Antipsychotic Medications

Antipsychotic Medication Facts

Antipsychotic medications were first developed to treat psychotic symptoms in people suffering from schizophrenia. The first such drugs were found to be effective in reducing psychotic symptoms (such as hallucinations), but they were notoriously "dirty" drugs, causing significant side effects. Since the mid-1990s new antipsychotics have been developed and marketed. These newer generation medications are not side effect-free, but they are considerably safer and better tolerated. The newer drugs are commonly referred to as *atypical antipsychotics.*

Although atypical antipsychotic medications are highly effective in treating psychotic symptoms it has been found that they are also good treatments for mania and possibly for mood stabilization in general. Thus these medications are currently being widely used to treat bipolar disorder even in individuals who have no psychotic symptoms. Finally, the atypical antipsychotic medication, Seroquel, can reduce depression in those with bipolar illness.

Atypical Antipsychotic Medications: Generic and Brand Names and typical adult daily doses

olanzapine	Zyprexa	5-20 mg.
risperidone	Risperdal	4-10 mg.
quetiapine	Seroquel	150-600 mg.
ziprasidone	Geodon	60-160 mg.
aripiprazole	Abilify	15-30 mg
asenapine	Saphris	10-20 mg
iloperidone	Fanapt	12-24 mg
lurasidone	Latuda	40-80 mg
paliperidone	Invega	3-12 mg

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Another antipsychotic medication that is used occasionally is clozapine (generic), Clozaril (brand name).

This antipsychotic medication has significant side effects (e.g. dry mouth, constipation, sedation, seizures, excessive salivation, blurred vision, nausea, heartburn and weight gain) and has been associated with a serious blood disorder (agranulocytosis: which causes soreness of the mouth, throat and gums and a high fever). Agranulocytosis can be fatal. Thus it is never considered to be a first line medication choice. However, despite the problematic side effects, Clozaril is an important medication that can often successfully treat those rare people who have not responded to more traditional bipolar medications. The typical adult daily doses for Clozaril are: 300-900 mg.

Please note that all of the following information regarding antipsychotics pertains to the atypical antipsychotics (except Clozaril).

Uses: treat mania and agitation; treat psychotic symptoms that are associated with both manic and depressive episodes. The effectiveness of antipsychotic medications in the long-term prevention of recurrences is as yet inconclusive. Atypical antipsychotics also treat aggression and Schizophrenia.

Onset of effects: Antipsychotic medications used to treat mania and can begin to reduce severe agitation within a few hours to a few days, however, the reduction of more pronounced manic symptoms, is similar to that seen with other bipolar medications such as lithium and anticonvulsants (7-10 days or longer).

Laboratory Tests: periodic monitoring of cholesterol, triglycerides, weight, body mass index, and blood glucose

Common Side Effects for Atypical Antipsychotics:

Drowsiness and lethargy (can occur with all, except Abilify)

Weight Gain (can occur with all, however minimal with Geodon and unlikely with Abilify)

Nausea, vomiting, heartburn

Stuffy nose

Mild dizziness

Less Common Side Effects (these should be reported to your doctor)

Constipation

Decreased Sex Drive

Breast tenderness, liquid discharge from breasts (can occur with high doses of Risperdal)

Rash

Severe sunburn when exposed to even moderate amounts of sunlight

Muscle rigidity

Tremor

Rash

Blurred vision

Abnormal, involuntary movements of the mouth, tongue and sometimes head, neck and hands (rare)

Rare or Potentially Dangerous Side Effects (if these occur, immediately contact your doctor)

Soreness in mouth, throat and gums
Moderate to severe nausea, vomiting and flu-like symptoms
Yellow tint to skin or eyes
Seizures
High fever (especially if accompanied by muscle stiffness)
Confusion
Extreme restlessness
Unusual bruising or bleeding
Severe rash
Frequent urination or loss of bladder control

Habit-Forming / Addiction Potential: none

Interactions with other medications (varies depending on the specific drug)
levodopa: antipsychotics may decrease effectiveness of levodopa
amphetamines
anticonvulsants: can decrease antipsychotic blood levels
Digoxin: may increase blood levels of digoxin and the antipsychotic
Warfarin: may increase Warfarin blood levels
Antacids: may interfere with the absorption of the drug

Safety during pregnancy: atypical antipsychotics are generally considered to be safe during pregnancy

Breast-feeding: antipsychotic medications are secreted in breast milk. since these are recently developed medications, there is inadequate information regarding safety to infants.

Special Concerns:
Avoid exposure to extreme heat (e.g. saunas)

Grapefruit juice may interfere with the effects of the drug

Excessive cigarette smoking may interfere with the effects of the drug

Avoid direct exposure to sunlight: antipsychotic medications can increase the likelihood of severe sunburns

Antidepressant Medications

New Generation Antidepressants: Generic and Brand Names and typical adult daily doses:

trazodone	Desyrel	50-400 mg.
fluoxetine	Prozac, Sarafem	20-80 mg.
bupropion	Wellbutrin	150-400 mg.
sertraline	Zoloft	50-200 mg.
paroxetine	Paxil	20-50 mg.
venlafaxine	Effexor	75-350 mg.
nefazodone	generic only	100-300 mg.
fluvoxamine	Luvox	50-300 mg.
mirtazapine	Remeron	15-45 mg.
citalopram	Celexa	10-60 mg
escitalopram	Lexapro	5-20 mg.
duloxetine	Cymbalta	20-80 mg.
atomoxepine	Strattera	60-120 mg.
vilazodone	Viibryd	10-40 mg
desvenlafaxine	Pristiq	50-400 mg
phenelzine	Nardil *	30-90 mg
tranylcypromine	Parnate *	20-60 mg
selegiline	Emsam (patch) *	6-12 mg

Drugs with an * are monoamine oxidase inhibitors (MAOI)

Uses: Treat unipolar major depression; may be effective in treating bipolar depression. Antidepressants (all except Wellbutrin) are effective in

treating severe anxiety, panic attacks and obsessive-compulsive disorder (OCD);

Please note: as noted above, the use of antidepressants in bipolar disorder is potentially problematic. Antidepressant medication can provoke manic episodes, can cause increased frequency of manic and depressive episodes, and generally they are ineffective in treating bipolar depression. They are contraindicated in the treatment of bipolar I. Can be used with caution in bipolar II, but only if other treatments have been ineffective; when used they must be prescribed along with an anti-manic agent. Among antidepressants MAOIs have the best track record in terms of effectiveness.

Onset of Effects: generally 2-6 weeks

Laboratory Tests: not required

Common Side Effects:

Nausea, heartburn

Anxious feelings (typically subsides within 1-2 weeks)

Headaches

Sedation (primarily with Remeron and Desyrel)

Difficulty falling asleep (often subsides in a few weeks)

Sexual dysfunction: primarily inorgasmia (difficulty achieving an orgasm despite adequate arousal) (can occur in 25-30% of people treated with antidepressants. One exception: very rare with Wellbutrin)

Weight gain (primarily with Remeron; with other antidepressants, weight gain can occur in up to 10% of people, however the weight gain typically does not occur until the person has been taking the drug for a period of time longer than six months)

Muscle tremor

Rash

Rare Side Effects (if these occur, immediately contact your doctor)

Soreness of mouth, throat, or gums

Severe rash

Seizures

Unusual bruising or bleeding

Severe nausea, vomiting and flu-like symptoms

Severe agitation or restlessness

Yellow tinge to skin or eyes; dark colored urine

Rapid shift into mania or hypomania; racing thoughts

Habit-Forming / Addiction Potential: none

Interactions with other medications: (varies depending on the drug) . Do not take with St. John's Wort, 5-HTP (dietary supplements), MAOIs, cimetidine (Tagamet)

Safety during pregnancy: most experts agree that most new generation antidepressants are safe for use during pregnancy (e.g. Prozac, Zoloft, Effexor, Wellbutrin and Luvox) (note: the following antidepressants have been only recently come to market and there is inadequate data to evaluate safety during pregnancy: Cymbalta, Strattera, Lexapro, Celexa, Nefazodone, Pristiq , Viibryd, and Remeron). The newer antidepressants (those listed above) are associated with a rate of birth defects that is equal to that found in the general population (i.e. in pregnant women who are not taking medications). The one exception is the antidepressant Paxil which has been associated with increased risk of cardiac defects and should not be used during pregnancy. High doses of Desyrel (Trazodone) should not be used during pregnancy.

Breast-feeding: antidepressants are secreted in breast milk, but the amounts are extremely low. Most experts agree that it is safe to breast feed while taking new generation antidepressants. Among antidepressants, Zoloft has the lowest level of antidepressants in breast milk.

Special Concerns: If you have been taking antidepressants for a period of six weeks or more, abruptly stopping the medications, can result in withdrawal symptoms (this can occur with any of the antidepressants with the exception of Prozac). Withdrawal symptoms include: nausea, stomach upset, nervousness, and flu-like symptoms. Withdrawal symptoms are

very unlikely if you have been taking the medication for less than six weeks. And withdrawal symptoms can be avoided almost 100% of the time by reducing the dose gradually. When your doctor thinks it is time to discontinue antidepressants they will likely instruct you on how to gradually discontinue (this often will be done over a period of several weeks).

Benzodiazepines *(tranquilizers)*

Benzodiazepine Facts:

Benzodiazepines are also commonly referred to as minor tranquilizers or anti-anxiety medications.

Benzodiazepines are the one class of drugs sometimes used to treat bipolar disorder that can be abused

Benzodiazepines: Generic and Brand Names and Typical Adult Daily Doses:

diazepam	Valium	4-30 mg.
chlordiazepoxide	Librium	15-50 mg
clonazepam	Klonopin	0.5-2.0 mg.
lorazepam	Ativan	2-6 mg.
alprazolam	Xanax	1-4 mg

Benzodiazepines used for sleep: Typical Adult Night-time Doses:

temazepam	Restoril	15-30 mg.
triazolam	Halcion	0.25-0.5 mg.
estazolam	ProSom	1-2 mg.
zolpidem	Ambien	5-10 mg.
zaleplon	Sonata	5-10 mg.
eszopiclone	Lunesta	1-3 mg

Uses: treat acute anxiety, agitation and insomnia during episodes of mania. Also used to treat anxiety disorders (such as panic disorder, post-traumatic stress disorder and generalized anxiety disorder). In the treatment of mania, benzodiazepines are generally used only for the first few days of treatment to reduce agitation; only rarely are these drugs used beyond a couple of weeks.

Onset of Effects: 30-60 minutes

Laboratory Tests: none required

Common Side Effects:

Drowsiness

Dizziness

Forgetfulness

Slurred speech

Less Common Side Effects:

Confusion

Nervousness

Rash

Loss of balance and falls

Habit-Forming / Addiction Potential: Significant risk for people with a prior personal or family history of alcoholism or other forms of serious drug abuse.

Interactions with Other Medications: When taking benzodiazepines any other type of medication that causes drowsiness or impaired alertness and reaction time can be potentially dangerous, especially if one has to drive an automobile. In addition, alcohol should not be consumed when taking benzodiazepines.

Safety During Pregnancy: Benzodiazepines typically are not to be used during pregnancy.

Breast Feeding: Benzodiazepines are secreted in breast milk and should not be used when breast-feeding.

Special Concerns: If benzodiazepines are being taken on a regular basis the body develops a tolerance for the medication. When this happens, typically the drugs continue to work to reduce anxiety, but the problem is that when there is tolerance, if you abruptly stop the medication there can be withdrawal symptoms. Withdrawal symptoms usually include nervousness, agitation, difficulty falling to sleep, and on occasion can produce seizures. This needs to be taken very seriously. If you have been taking a benzodiazepine on a daily basis for more than 6 weeks and especially if the dose is moderate to high, withdrawal reactions are a very real risk. You should never abruptly stop taking the medication without first consulting with your doctor. It is also a good idea to be especially careful to monitor your supply of the medications so that refills can be requested in a timely fashion. Many people find it helpful to keep at least a two-day supply on hand in the event that it takes longer than usual for a prescription to be refilled.

Calcium Channel Blockers

Calcium channel blockers are medications that are often used to treat certain cardio-vascular diseases. Two of these drugs have been found to be effective in the treatment of mania, and possibly as a treatment to prevent the recurrence of mood episodes.

Verapamil	Calan, Isoptin	120 mg. given 3 or 4 times a day Thus total daily: 360-480 mg.
Nimodipine	Nimotop	given 4 times a day Total daily dose: 150-360 mg

Uses and General Considerations: for people who cannot tolerate lithium, for rapid cycling bipolar, or for use during pregnancy (verapamil is considered to be the safest mood stabilizing medication for the treatment of bipolar disorder during pregnancy). Like most other bipolar medications

it generally takes 7-10 days for calcium channel blockers to begin reducing symptoms.

Miscellaneous Medications

Other Medications that are Occasionally Used to Treat Bipolar Disorder

The following medications are used less often in the treatment of bipolar disorder and thus will be discussed only briefly.

Older Generation Antipsychotics

As noted above, newer generation antipsychotics have been developed during the past fifteen years. The newer drugs are considerably safer and have significantly fewer side effects than older-generation antipsychotic medications. The older generation medications are included here just as a point of information since in rare instances some people may be treated with these drugs (brand names): Thorazine, Mellaril, Serentil, Moban, Trilafon, Loxitane, Stelazine, Prolixin, Navane, Orap, and Haldol. Of these the most common drug that is still used these days is Haldol (often useful to initially treat very severe agitation seen in some types of mania).

Anticholinergic Medications

This class of medications is used occasionally to combat side effects of some antipsychotic drugs (side effects such as: muscle rigidity or spasms, restlessness, tremor). Again, we will only list these medications (brand names): Cogentin, Akineton, Artane. Anticholinergic drugs have their own set if side effects including: constipation, blurred vision, dry mouth, difficulty beginning urination, and occasionally memory loss, confusion and delirium.

Over-the-counter Products

Omega-3 Fatty Acids

Omega-3 supplementation (doses of 1000-2000 mg per day derived from fish oil) have been shown to be somewhat effective in the treatment of unipolar depression. Unfortunately, the results in bipolar disorder are not as promising. Omega-3 fatty acids may afford benefits in terms of

improved cardio-vascular functioning, but the impact on mood episodes in bipolar disorder is minimal at best.

SAM-e and St. John's Wort: CAUTION

These over-the-counter products if taken in high doses prescribed can treat depression. However, they have also been responsible for catastrophes in those suffering from bipolar disorder. Like other treatments that reduce depression, these drugs can and have provoked severe manic episodes. The problem with SAMe and St. John's Wort is that they are self-prescribed and administered without medical supervision. If either of these products are taken for the treatment of depression it is extremely important to do so under medical supervision.

Resources for Families and Patients:

1. The Bipolar Disorder Survival Guide (2010) by D. J. Miklowitz, Guilford Press
2. Loving Someone with Bipolar Disorder (2012) by J. Fast and J. Preston, New Harbinger
3. Taking Charge of Bipolar Disorder (2006) by J. Fast and J. Preston. Time/Warner
4. Bipolar 101 (2010) by. R. White and J Preston. New Harbinger.
5. www.bipolarhappens.com
6. Consumer's Guide to Psychiatric Drugs (2009) by J. Preston, J. O'Neal, and M. Talaga. Pocket Books

Depression and Bipolar Support Alliance: www.ndmda.org
800-826-3632

For a comprehensive reference list, please email the author:preston.john@comcast.net

On the next two pages you will find
A “Quick Reference to Psychiatric Drugs”
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QUICK REFERENCE TO PSYCHOTROPIC MEDICATIONS®

DEVELOPED BY JOHN PRESTON, PSY.D., ABPP

To the best of our knowledge recommended doses and side effects listed below are accurate. However, this is meant as a general reference only, and should not serve as a guideline for prescribing of medications. Please check the manufacturer's product information sheet or the P.D.R. for any changes in dosage schedule or contraindications. (Brand names are registered trademarks.)

ANTIDEPRESSANTS

NAMES		Usual Daily Dosage			Selective Action On Neurotransmitters[2]		
Generic	Brand	Range	Sedation	ACH[1]	NE	5-HT	DA
imipramine	Tofranil	150-300 mg	mid	mid	+ +	+++	0
desipramine	Norpramin	150-300 mg	low	low	+++++	0	0
amitriptyline	Elavil	150-300 mg	high	high	++	++++	0
nortriptyline	Aventyl, Pamelor	75-125 mg	mid	mid	+++	++	0
clomipramine	Anafranil	150-250 mg	high	high	0	+++++	0
trazodone	Desyrel, Oleptro	150-400 mg	mid	none	0	++++	0
nefazodone	Generic Only	100-300 mg	mid	none	0	+++	0
fluoxetine	Prozac[4], Sarafem	20-80 mg	low	none	0	+++++	0
bupropion	Wellbutrin[4]	150-400 mg	low	none	++	0	++
sertraline	Zoloft	50-200 mg	low	none	0	+++++	+
paroxetine	Paxil	20-50 mg	low	low	+	+++++	0
venlafaxine	Effexor[4]	75-350 mg	low	none	+++	+++	+
desvenlafaxine	Pristiq	50-400 mg	low	none	+++	+++	+
fluvoxamine	Luvox	50-300 mg	low	low	0	+++++	0
mirtazapine	Remeron	15-45 mg	mid	mid	+++	+++	0
citalopram	Celexa	10-40 mg	low	none	0	+++++	0
escitalopram	Lexapro	5-20 mg	low	none	0	+++++	0
duloxetine	Cymbalta	20-80 mg	low	none	+++	+++	0
vilazodone	Viibryd	10-40 mg	low	low	0	+++++	0
atomoxetine	Strattera	60-120 mg	low	low	+++++	0	0
vortioxetine	Brintellix	10-20 mg	low	none	+	+++++	+
levomilnacipran	Fetzima	40-120 mg	low	none	+++	+++	0
MAO INHIBITORS							
phenelzine	Nardil	30-90 mg	low	none	+++	+++	+++
tranylcypromine	Parnate	20-60 mg	low	none	+++	+++	+++
selegiline	Emsam (patch)	6-12 mg	low	none	+++	+++	+++

[1]ACH: Anticholinergic Side Effects
[2]NE: Norepinephrine, 5-HT: Serotonin, DA: Dopamine (0 = no effect, + = minimal effect, +++ = moderate effect, +++++ = high effect)
[3]Uncertain, but likely effects
[4]Available in standard formulation and time release (XR, XL or CR). Prozac available in 90mg time released/weekly formulation

BIPOLAR DISORDER MEDICATIONS

NAMES		Daily	Serum[1]
Generic	Brand	Dosage Range	Level
lithium carbonate	Eskalith, Lithonate	600-2400	0.6-1.5
olanzapine/ fluoxetine	Symbyax	6/25-12/50mg[4]	2
carbamazepine	Tegretol,Equetro	600-1600	4-10+

NAMES		Daily	Serum[1]
Generic	Brand	Dosage	Range Level
divalproex	Depakote	750-1500	50-100
lamotrigine	Lamictal	50-500	(2)
oxcarbazepine	Trileptal	1200-2400	(2)

[1]Lithium levels are expressed in mEq/l, carbamazepine and valproic acid levels express in mcg/ml.
[2]Serum monitoring may not necessary [3]Not yet established [4]Available in: 6/25, 6/50, 12/25, and 12/50mg formulations

ANTI-OBSESSIONAL

NAMES		
Generic	Brand	Dose Range[1]
clomipramine	Anafranil	150-300 mg
fluoxetine	Prozac[1]	20-80 mg
sertraline	Zoloft[1]	50-200 mg
paroxetine	Paxil[1]	20-60 mg
fluvoxamine	Luvox[1]	50-300 mg
citalopram	Celexa[1]	10-40 mg
escitalopram	Lexapro[1]	5-30 mg
vilazodone	Viibryd[1]	10-40 mg

[1]often higher doses are required to control obsessive-compulsive symptoms than the doses generally used to treat depression.

PSYCHO-STIMULANTS

NAMES		
Generic	Brand	Daily Dosage[1]
methylphenidate	Ritalin	5-50 mg
methylphenidate	Concerta[2]	18-54 mg
methylphenidate	Metadate	5-40 mg
methylphenidate	Methylin	10-60 mg
methylphenidate	Daytrana (patch)	15-30 mg
methylphenidate	Quillivant XR (liquid)[2]	10-60 mg
dexmethylphenidate	Focalin	5-40 mg
dextroamphetamine	Dexedrine	5-40 mg
lisdexamphetamine	Vyvanse	30-70 mg
d- and l-amphetamine	Adderall	5-40 mg
modafinil	Provigil, Sparlon	100-400 mg
armodafanil	Nuvigil	150-250 mg

[1]Note: Adult Doses. [2]Sustained release

ANTIPSYCHOTICS

NAMES Generic	Brand	Dosage Range[1]	Sedation	Ortho[2]	EPS[3]	ACH Effects[4]	Equivalence[5]
LOW POTENCY							
chlorpromazine	Thorazine	50-800 mg	high	high	+ +	++++	100 mg
thioridazine	Mellaril	150-800 mg	high	high	+	+++++	100 mg
clozapine	Clozaril	300-900 mg	high	high	0	+++++	50 mg
quetiapine	Seroquel	150-600 mg	mid	mid	+/0	+	50 mg
HIGH POTENCY							
perphenazine	Trilafon	8-60 mg	mid	mid	++++	++	10 mg
loxapine	Loxitane	50-250 mg	low	mid	+++	++	10 mg
trifluoperazine	Stelazine	2-40 mg	low	mid	++++	++	5 mg
fluphenazine	Prolixin[5]	3-45 mg	low	mid	+++++	++	2 mg
thiothixene	Navane	10-60 mg	low	mid	++++	++	5 mg
haloperidol	Haldol[5]	2-40 mg	low	low	+++++	+	2 mg
pimozide	Orap	1-10 mg	low	low	+++++	+	1-2 mg
risperidone	Risperdal	4-16 mg	low	mid	+	+	1-2 mg
paliperidone	Invega	3-12 mg	low	mid	+	+	1-2 mg
olanzapine	Zyprexa	5-20 mg	mid	low	+/0	+	1-2 mg
ziprasidone	Geodon	60-160 mg	low	mid	+/0	++	10 mg
iloperidone	Fanapt	12-24 mg	mid	mid	+	++	1-2 mg
asenapine	Saphris	10-20 mg	low	low	+	+	1-2 mg
lurasidone	Latuda	40-80 mg	mid	mid	+	+	10 mg
aripiprazole	Abilify	15-30mg	low	low	+	+	2 mg

[1]Usual daily oral dosage
[2]Orthostatic Hypotension Dizziness and falls
[3]Acute: Parkinson's, dystonias, akathisia. Does not reflect risk for tardive dyskinesia. All neuroleptics may cause tardive dyskinesia, except clozapine.
[4]Anticholinergic Side Effects.
[5]Dose required to achieve efficacy of 100 mg chlorpromazine.
[6]Available in time-release IM format.

ANTI-ANXIETY

NAMES Generic	Brand	Single Dose Dosage Range	Equivalence[1]
BENZODIAZEPINES			
diazepam	Valium	2-10 mg	5 mg
chlordiazepoxide	Librium	10-50 mg	25 mg
clorazepate	Tranxene	3.75-15 mg	10 mg
clonazepam	Klonopin	0.5-2.0 mg	0.25 mg
lorazepam	Ativan	0.5-2.0 mg	1 mg
alprazolam	Xanax, XR	0.25-2.0 mg	0.5 mg
OTHER ANTIANXIETY AGENTS			
buspirone	BuSpar	5-20 mg	
gabapentin	Neurontin	200-600 mg	
hydroxyzine	Atarax, Vistaril	10-50 mg	
propranolol	Inderal	10-80 mg	
atenolol	Tenormin	25-100 mg	
guanfacine	Tenex, Intuniv	0.5-3 mg	
clonidine	Catapres, Kapvay	0.1-0.3 mg	
prazosin[2]	Minipress	5-20 mg	
pregabalin	Lyrica	25-450 mg	

[1]Doses required to achieve efficacy of 5 mg of diazepam
[2]For treatment of nightmares and day time anxiety

HYPNOTICS

NAMES Generic	Brand	Single Dose Dosage Range
temazepam	Restoril	15-30 mg
triazolam	Halcion	0.25-0.5 mg
zolpidem	Ambien	5-10 mg
zolpidem	Intermezzo	1.75 mg
zaleplon	Sonata	5-10 mg
eszopiclone	Lunesta	1-3 mg
ramelteon	Rozerem	4-16 mg
diphenhydramine	Benadryl	25-100 mg
doxepin	Silenor	3-6 mg

OVER THE COUNTER

Name	Daily Dose
St. John's Wort[1, 2]	600-1800 mg
SAM-e[3]	400-1600 mg
Omega-3[4]-EPA	1-2 g
Folic acid[8]	500 mcg
N-acetylcysteine[5]	1200-2400 mg
Chamomile[6]	200-1500 mg
5-HTP[7]	300-600 mg

[1]Treats depression and anxiety
[2]May cause significant drug-drug interactions
[3]Treats depression
[4]Treats depression and bipolar disorder
[5]For trichotillomania
[6]Treats anxiety:equivalent: one cup of chamomile tea
[7]Treats depression
[8]Note: available as Deplin 1-methylfolate (presctiption) 7.5-15 mg

REFERENCES and RECOMMENDED BOOKS

Quick Reference • Free Downloads
Website: www.PsyD-fx.com

Handbook of Clinical Psychopharmacology For Therapists
(2013) Preston, O'Neal and Talaga

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Consumer's Guide to Psychiatric Drugs
(2009) Preston, O'Neal, Talaga

Child and Adolescent Psychopharmacology Made Simple
(2010) Preston, O'Neal, Talaga

Books and Continuing Ed Courses by John Preston

CE courses: Website: www.Psyd-fx.com All books available: Amazon.com

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13. Preston, J.D. and Kirk, M. (2010) **Depression 101**. New Harbinger: Oakland

Free Books

14. Preston, J.D. (2015) **Bipolar Medications: A Concise Guide to Medical Treatment of Bipolar Disorder** Second edition. **Free download** on my website: Psyd-fx.com or available for $2.99: Amazon: Kindle

15. Preston, J.D., Varzos, N. and Liebert, D.S. (2000) **Make Every Session Count**: A Guide to Psychotherapy: types of treatment, making the most of your therapy and a coping skills manual. International Psychotherapy Institute: Washington, DC **Free download :** www.freepsychotherapybooks.org

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