



Psychotropic Medications

Antidepressants

Antidepressants are used for more than just depression. They are used for anxiety, obsessive compulsive disorder, & post-traumatic stress disorder. They help with impulsivity, anger, & also some eating disorders. However, some of these medications can cause lack of appetite, so you need to beware of any eating disorders that might be present. Also, some of these medications can cause an increase in appetite, so weight gain, increasing waist circumference, & other signs of development of the metabolic syndrome need to closely be monitored. Neuroleptics are not the only class of medications which contribute to the development of the metabolic syndrome.

Antidepressants are not for the impatient person. They take from 10 days to 6 weeks to reach full efficacy. Clients will need to be warned of this & encouraged to continue with the medication even though immediate results will not be seen. Most antidepressants need upward titration when larger doses are needed. If the depression is situational, then it is likely antidepressants will not be helpful. In this instance, it is best to direct the client to counseling.

Antidepressants are NOT addictive, but can cause withdrawal symptoms. These symptoms can include dizziness, nausea, vomiting, diarrhea, & headache. These can be severe enough to be disabling for a few days.

The current generation of antidepressants are considered to be safe. That is one of the reasons they are used much more frequently than the tricyclics, which can be fatal with overdose.

There are several classes of antidepressants, but the most commonly known are SSRI's & SNRI's. They are generally used once a day, but on occasion will be prescribed for twice a day.

SSRI's (selective serotonin reuptake inhibitors) include:

- ❖ Prozac (fluoxetine) 5-20 mg/d in children/20-80 mg/d adolescence & adults
- ❖ Paxil (paroxetine) 20-60 mg/d
- ❖ Zoloft (sertraline) 50-200 mg/d
- ❖ Lexapro ((escitalopram) 10-30 mg/d

SNRI's (serotonin-norepinephrine reuptake inhibitors) include:

- ❖ Cymbalta (duloxetine) 20-60 mg/d; if 60 mg should be split doses

- ❖ Effexor XR (venlafaxine) 75-375 mg; if 375 mg should be in 3 split doses
- ❖ Pristiq (desvenlafaxine) 50 mg/d; no titration necessary

Non-SSRI/SNRI's include

- ❖ Remeron (mirtazapine) 15-45 mg/d
- ❖ Wellbutrin (bupropion) (Watch for Stephens Johnson Syndrome) 1560 mg/d

Antidepressant's side effects include:

- ❖ Anxiety
- ❖ Rash
- ❖ Sweating
- ❖ **Constipation**
- ❖ Dry mouth
- ❖ Nausea & vomiting
- ❖ Tinnitus
- ❖ Rapid changes in pulse
- ❖ Heart palpitations
- ❖ Abnormal dreams
- ❖ Hot flashes
- ❖ ↑ **b/p**
- ❖ ↓ **libido**
- ❖ **Impotence**
- ❖ **Abnormal or delayed ejaculation**
- ❖ **Sedation**
- ❖ **Photosensitivity**
- ❖ **Bruising**
- ❖ Insomnia
- ❖ ↓ appetite

The Serotonin Syndrome (SS) can develop in a person taking antidepressants. For some reason, it seems to occur more frequently in users of Effexor (venlafaxine) & Wellbutrin (bupropion), though it can happen with any of them. Most cases are of the mild-to-moderate variety, but some can become life threatening. The syndrome seems to develop most frequently when used in conjunction with other proserotonergic agents.

If a client is on an antidepressant there needs to be a real awareness of other drugs that are being taken. These would include Trazodone, lithium, psycho-stimulants, & opioids, such as Demerol (meperidine) & Ultram (tramadol). A list should be made of any supplements being taken. St. John's wort & ginseng have both been implicated as supplements which have contributed to a person developing SS. Street drugs such as MDMA, Ecstasy, & cocaine have also been implicated.

Signs of Serotonin Syndrome include:

- ❖ Muscle rigidity
- ❖ Ataxia
- ❖ Resting tremor

- ❖ Lower extremity reflexes are hyper-reactive (hyperreflexia)
- ❖ Pressured speech
- ❖ Restlessness
- ❖ Confusion
- ❖ Sweating
- ❖ Diarrhea
- ❖ Fever
- ❖ Headache

If a client presents with several of these signs & symptoms consider that they may have developed Serotonin Syndrome. Have them hold their medication & then contact their prescriber. Follow up with the client after conferring with the medicine man (or woman).

Mood Stabilizers

Most mood stabilizers were first approved by the FDA for seizure disorders. However, they were found to be effective against manic behavior, so are now frequently used for Bipolar Disorder. They help stabilize the anger, impulsivity, & irritability seen with mania. They do not help with the depression associated with Bipolar Disorder.

Most mood stabilizers will need to be titrated up until optimal dose for client is reached.

The mood stabilizers include:

- ❖ Lithium (LiCO₃) 300-600 mg up to 4 times/d in split doses
- ❖ Depakote (valproic acid) 750-3000 mg/d; split doses if at higher end
- ❖ Lamictal (lamotrigine) 300-500 mg/d
- ❖ Tegretol (carbamazepine) 200-1600 mg/d; split doses at higher end
- ❖ Trileptal (oxcarbamazepine) 300-1200 mg/d; split doses at higher end

With Lithium, Depakote, & Tegretol a blood level must be drawn @ 2 – 3 weeks & every 6 months thereafter. There are therapeutic ranges for each of these 3 medications as well as toxic levels. The therapeutic range for LiCO₃ is 0.6 – 1.2, for Depakote it is 40 – 150, & for Tegretol the range is 4 – 10. If a person is toxic they will experience nausea, vomiting, diarrhea, blurred vision, slurred speech &/or trembling of the upper & lower extremities. If a person is in the toxic range, rather than therapeutic, you should contact the client & tell them to hold the medication until they hear back from you. Then, the prescriber needs to be informed of the lab results &/or signs of toxicity. The client is then informed of how the prescriber wishes to proceed.

Though fairly safe, there are a few things that need to be known about this group of psychotropics. Depakote (valproic acid) can cause seizures if suddenly withdrawn. That is why it is important to always titrate down when discontinuing this medication. Also, Depakote can adversely affect the liver, so the client should be informed that drinking alcohol could lead to severe health issues & lab tests for liver function need to be done at baseline & annually.

Valproic acid blood levels need to be tested every 6 months for the same reason that LiCO₃ & Tegretol levels need to be.

Lithium (LiCO₃) was the first medication used as a mood stabilizer. It is a salt, therefore, it is important that hydration is well maintained. Clients need to be encouraged to drink plenty of fluids when taking this medication. LiCO₃ can adversely affect kidney function, so creatinine & BUN lab tests need to be done at baseline & annually.

Lamictal (lamotrigine) is probably the safest of the mood stabilizers. The important thing to watch for with Lamictal is Stephens Johnson Syndrome which will generally first present as a flu with generalized rash. Though this occurs **rarely**, it can be life threatening. Anyone taking Lamictal needs to be made aware of this syndrome & the signs & symptoms for which they should be looking.

Tegretol (carbamazepine) can cause heart conditions such as AV block, congestive heart failure, & dysrhythmias. Before Tegretol is started it is community standard that an EKG is done & has been reported as normal. Tegretol & Trileptal appear to be the least effective of the mood stabilizers.

Trileptal (oxcarbamazepine) can also cause Stephens Johnson syndrome & should be closely monitored.

Mood Stabilizer's Side Effects include:

- ❖ Sedation
- ❖ Weight gain
- ❖ **Abnormal liver function**
- ❖ **Abnormal kidney function**
- ❖ Stephen's Johnson Syndrome (Lamictal & Trileptal)
- ❖ ↓ b/p
- ❖ **Impotence**
- ❖ **Blood dyscrasias**
- ❖ Rash

Neuroleptics

Neuroleptics, also known as anti-psychotics, are used for more conditions than just those with psychosis. Some of these medications have been approved as adjunct therapy with an antidepressant. Others are used for Bipolar Disorder as well as Pervasive Developmental Disorder. They are used from 1 to 3 times a day & generally take 2 days to 6 weeks to reach full efficacy.

Neuroleptics are known as either typicals or atypical. The typicals are the first generation neuroleptics. The atypicals are the second generation antipsychotics & are more widely used

today. These medications are generally titrated up until the optimal dose for the client is reached.

Some neuroleptics can be taken at any time of the day, but there are a few, like Zyprexa & Seroquel, which cause sedation. These drugs need to be taken close to bedtime.

The Atypicals include:

- ❖ Risperdal (risperidone) 1-6 mg; split doses at higher end
- ❖ Risperdal Consta (injection) 25 mg-75 mg every 2 weeks
- ❖ Zyprexa (olanzapine) 2.5-20 mg/d
- ❖ Seroquel (quetiapine) 25-300 mg/d
- ❖ Clozaril (clozapine) 25-900 mg/d
- ❖ Latuda (lurasidone) 40-80 mg/d
- ❖ Geodon (ziprasidone) 20-80 mg/d
- ❖ Abilify (aripiprazole) 2 mg-5mg (adjunct/depression) & 10mg-30 mg for psychosis
- ❖ Invega (paliperidone) 39 mg-117 mg/mo. after loading doses of 234 mg & 156 mg
- ❖ Invega Sustenna (injection)
- ❖ Saphris (asenapine) 10-20 mg/d (schizophrenia) & 20-40 mg/d (bipolar) in split doses

Clozaril (clozapine) was the first atypical to hit the market. Cloz (as it is affectionately known) changed people's lives without causing the involuntary muscular movements in everyone who was on it long term. However, Cloz is not without its problems. Blood dyscrasias (conditions) can develop at any time. The dyscrasias can be deadly. Because of this there is a national registry that every client must be entered into when they are started on this medication. Also, a CBC (complete blood count) with differential needs to be done at very specific times during treatment. The CBC must include ANC's (absolute neutrophil count) when doing Clozaril monitoring. A normal lab report shows the WBC's (white blood cells) greater than 3.5 & the ANC's greater than 2.0. If the values are lower than these numbers, then the prescriber needs contacted, the client must be called & the CBC needs to be redrawn that day. If the results remain low with the second blood draw, the client is taken off Cloz & shouldn't be restarted on it.

Clinicians who have clients on Clozaril need to know that for the 1st 6 months of treatment the client will need to have a CBC with differential drawn every week. If every single one of the labs come back within normal limits, then the client can have the blood draws every 2 weeks. However, if even 1 comes back too low, then the 6 months starts all over again. If the client has had normal CBC's with differentials every week for 6 months, then every 2 weeks for 6 months, then the lab draw schedule can go to once monthly. Though the labs can be drawn more frequently than this, they cannot be stretched out to longer periods of time.

These medications have proven to be fairly effective against the positive signs of psychosis. They don't appear to be nearly as effective against the negative signs. Akathisia (the inability to be still) is seen in many people just starting an atypical. This condition might go away with

time or might need to be treated with either Cogentin (benzotropine) or Artane (trihexyphenidyl).

Typical neuroleptics, though very good at helping with symptoms, come with a lot of problems. It is common to see people with serpentine muscular movements, ataxia, tardive dyskinesia, foot drop, twitching, rapid, irregular, & spontaneous movements of the arms, and/or odd facial movements. These signs are called extrapyramidal symptoms (EPS). Many times people don't even know their muscles are moving in these unusual ways.

Atypical neuroleptics don't seem to have the problems with EPS as frequently as the typicals. However, EPS can still happen, so it's important to monitor for it. Whether a client is taking an atypical or a typical neuroleptic, they should have an AIMS (Abnormal Involuntary Movement Scale) test done when first starting the medication & then at least every 6 months thereafter. Of course, if you notice unusual muscular movement at other times you would want to perform an AIMS

This group has a greater potential for causing serious medical conditions than the typicals. The most serious condition which needs to be monitored is the Metabolic Syndrome. This syndrome includes converting to type II diabetes & developing heart disease.

The metabolic syndrome has several warning signs that it is developing. The first sign that is usually observed is in the triglycerides & cholesterol. The HDL will generally go down, the LDL & triglycerides will rise. This is not just an indication that the client is at risk for cardiovascular disease. These are the first indicators that the person is probably going to develop type II diabetes unless there are lifestyle changes that are made. This is why it is essential that when a person is started on an atypical neuroleptic that a lipid panel is done at baseline, 1 month after starting the medication & every 6 months thereafter. This will be the first indication that things are not as they appear to be.

When checking for the metabolic syndrome it is also important to check the waist circumference. A female waist should be less than 35 inches & a male's less than 40 inches. This needs to be checked at every medical visit. This is generally the second indicator that the person is heading towards developing type II diabetes.

Weight & blood pressure should also be checked with each medical visit. The systolic should be less than 135 for females & less than 140 for males. The diastolic should be less than 80. It is not unusual for someone taking an atypical neuroleptic to gain weight & develop high b/p, which are signs of the metabolic syndrome. Some medications, like Zyprexa, Seroquel, & Risperdal, are better known to cause rapid weight gain & hypertension than some of the other neuroleptics. When a client is prescribed these medications it is imperative that weight, especially, is monitored closely.

Fasting glucose needs to be checked at baseline & one month after starting a neuroleptic. Then, if the client is on a neuroleptic this lab test should be done every six months. A value of 80 -100 is normal; 100 – 110 is pre-diabetic; over 110 the person will need to be referred to a medical doctor. They are considered type II diabetic at 150.

Saphris (asenapine) & Abilify (aripiprazole) are neuroleptics that are thought to be metabolic neutral. Though the risks of developing the metabolic syndrome are lower with these 2 medications, it can still happen. So, monitoring is an important part of treatment.

Though it doesn't happen as often with the atypicals as it does with the typicals, movement disorders can be seen with this group of medications.

Typicals include:

- ❖ Haldol (haloperidol) 0.5-15 mg/d; split doses at higher end
- ❖ Thorazine (chlorpromazine) 10-2000 mg/d; split doses at higher end
- ❖ Trilafon (Perphenazine) 2-16 mg; split doses at higher end

The main problems with the typicals are the movement disorders that are seen, eventually, in most people who take them. These movement disorders can be extremely embarrassing for people, though they don't cause potentially life-threatening conditions as the atypicals do.

As movement disorders & akathisia are known to happen with both the typicals & atypicals it is important an AIMS test & Barnes Akathisia Rating Scale are performed at baseline & every 6 months. Of course, you would perform one or both if any problems were seen.

Though rare, there is a syndrome that is life threatening that can develop with the use of neuroleptics. It is called (of course) the Neuroleptic Malignant Syndrome (NMS). The incidence rate ranges from 0.02-12.2%. The mortality rate today is lower than in the past, probably because people are more aware of it. In the past the rate of mortality ranged from 20-30%. It is now estimated to be 5-11.6%. Death usually results from cardiac, respiratory, & kidney complications.

Though age doesn't seem to be a factor in who develops NMS, gender does. Males are twice as likely as females to become ill due to NMS. The signs to look for are:

- ❖ Change in mental status
- ❖ Heart rate of 100 or more
- ❖ Rapid breathing
- ❖ ↑ blood pressure
- ❖ ↓ blood pressure
- ❖ Sweating
- ❖ Increased salivation
- ❖ Tremor

- ❖ Incontinence
- ❖ Fever

If a client presents with 5 or more of these signs & symptoms the prescriber needs to be informed immediately. Neuroleptics need to be held until a differential diagnosis has been made. The client will be need to be hospitalized until stable. If started on neuroleptics again, it would be done with great caution.

Benzodiazepines

When we think of benzodiazepines most of us think of the anxiolytics (anti-anxiety). Many people don't realize benzodiazepines include hypnotics & some anticonvulsants as well as the anxiolytics. You might see some hypnotics used, such as Ambien (zolpidem) or Restoril (tamezepam), but this is fairly uncommon in our population. Due to the addictive nature of benzodiazepines (commonly known as benzos) you will rarely see this type of anticonvulsant used. I have never seen what is probably the most well known benzodiazepine & hypnotic, Rohypnol, prescribed in my 30 years of nursing. Of course, this is also known as a date rape drug.

In mental health we are most apt to see the anxiolytics used. It is not uncommon for our clients to feel anxious. They have undergone a life altering event. Anxiolytics are generally used for only a short period of time. This is due to, again, the addictive nature of this class of drug. Generally, an anxiolytic with a short ½ life, like Klonopin (Clonazepam), will be used rather than one with a longer ½ life, like Valium (diazepam). You will probably most often see Ativan (Lorazepam) & Klonopin (Clonazepam) used to help calm the clients.

When a client is started on a benzo they should be warned not to drink alcohol. Both alcohol & the benzodiazepines depress the breathing center in our brains. Though it is infrequent, there have been cases that have turned out tragic due to this deadly combination.

Just a Little Case Study (dosages won't matter)

Polly, a 20 y.o. college student, has come to you with fixed delusions & hallucinations. Her partner, Carol, reports she has been exhibiting very odd behaviors. Polly doesn't have insurance, you don't have any medication samples available to you, & there isn't time to wait for med assist to be approved. Something has to be done NOW to prevent a hospitalization.

Because you are familiar with the Catie Study, you decide to try her on Trilafon (perphenazine). At 1 week there isn't any change, so you increase the dose. 3 days later you get a phone call from Carol. Polly isn't doing any better. So, you decide to try another typical neuroleptic, though it wasn't part of the Catie Study. You put her on Prolixin. At 1½ weeks you see some improvement, but not as much as you would like. After increasing the dose she reports her hallucinations have stopped. Though she is still somewhat delusional, she tells you that these thoughts seem a little odd now. Carol reports her behavior is no longer odd, but she still doesn't seem to want to socialize, do things that used to interest her, or want to attend classes. You sit down with both Polly & Carol to explain that neuroleptics help with the positive signs & symptoms, like hallucinations, delusions & bizarre behaviors. However, they don't

seem to be nearly as effective on the negative symptoms, which are things like isolating & no longer taking pleasure in things that used to be of interest. You explain only multi-family group & time will help with the negative symptoms.

At 2 months she experiences a relapse. None of the typicals you have tried are working for her. Because she was picked for the OHP lottery she now has insurance. In fact, she has OHP+. This is wonderful news.

Since Polly now has insurance you decide to try her on Abilify (aripiprazole). Because this is an atypical, you know there is a risk of developing the Metabolic Syndrome. So, you know it is important to have a fasting glucose & lipid panel drawn at baseline & then annually. This needs to be done to monitor the triglycerides, cholesterol, & blood sugar. The baseline values come back within normal limits.

You see her 1 week after starting the Abilify (aripiprazole). She tells you she is very anxious. She knows this because she can't seem to sit still. Also, she's having problems falling asleep at night because her legs keep twitching. She does not feel "nervous" about anything, is not fearful, & denies any other emotions connected with this need to move. After further discussion, you decide you should do a Barnes Akathisia Scale on her. Sure enough, she is experiencing akathisia. You start her on Cogentin (benztropine). The following week she states she is no longer having problems with the need to move.

Though the Abilify (aripiprazole) needed to be titrated up every few weeks, Polly finally stabilizes on 20 mg daily. At the end of a year she continues to do well. Carol reports Polly is now socializing & considering returning to school.

Just Another Little Case Study (again, dosages really don't matter)

Gerald is 22 y.o. &, until recently, had been working full-time in a garage. He had been doing well & was thinking of going to automotive school. Then, he started spending money he didn't have & bringing home different woman almost every night. His family reports he is really angry, irritable, & has been getting into a lot of fights at the bars. Drinking a lot is also a change for him. He used to be a tee-totaler. He is diagnosed with Bipolar Affective Disorder.

He comes to you on LiCO₃ (lithium) that was prescribed by his PCP. You notice on his labs that he has elevated BUN & creatinine levels – there's something going on with his kidneys. Because you know lithium can be hard on the kidneys, you decide to discontinue it & start him on Lamictal (lamotrigine). After a week he is complaining of flu-like symptoms. You are concerned he might be developing Stephens Johnson Syndrome, so you stop the lamotrigine & tell him to go to the emergency department. After hours of being work up in the ED, he is admitted to ICU with a diagnosis of Stephens Johnson Syndrome. While in the ED he had developed the telltale rash. He is in the hospital for 6 days.

Upon release, he sees you for an appointment. You start him on Depakote (valproic acid). He seems to do fine on that. His mania is controlled. However, he expresses his concern about how severe his depression seems to have become. You start him on Cymbalta (duloxetine), which is a SNRI (serotonin norepinephrine reuptake inhibitor). This seems to activate him, so you switch him to Wellbutrin (bupropion). He does well on the medication regimen of Depakote & Wellbutrin.

The Very Last Little Case Study (no dosages necessary)

Julie is 18 y.o. & experiencing anxiety. She goes to her PCP & he prescribes Ativan (lorazepam), which is a benzodiazepine. She is warned not to drink alcohol while taking it. Her PCP informs her the combination of a benzodiazepine & alcohol can slow her breathing to dangerous levels. She's fairly offended by this. She's only 18 y.o. & has always gone by the rules. She vows never to see this doctor again.

2 months later her partner, Frank, seeks out help for Julie. She's acting bizarre, is delusional, irritable & spending money like mad. He is able to get her into a mental health provider. After several months of trying to find the right combination of medications, she finally stabilizes on Clozaril (clozapine) & Depakote (valproic acid). She is now asymptomatic.

Because she is on Clozaril (clozapine) she has to have a CBC with differential blood draw every week. She is coming up on her 6 months mark, which means the blood draws could go to bi-weekly, when you notice her WBC's (white blood cells) & ANC's (absolute neutrophil count) are slowly dropping. After the 3rd lab report that comes back with these values even lower, you discuss these findings with the prescriber. He stops the Depakote. You are surprised. You thought the Clozaril was causing the drop in WBC's & ANC's. The prescriber explains that if a person is on both Depakote & Clozaril & values drop rapidly, then it is probably the Clozaril causing the problem. However, if the values drop gradually, you need to look at Depakote as being the culprit. Because her values have been dropping, she continues with weekly blood draws. After stopping the Depakote her values rise again.

OK, I Lied, This is The Last Case Study (it's even smaller than the other ones!)

Charlie has been your client for a while. He became stable on Risperdal Consta injections. However, he is somewhat disgruntled that he needs to come in every 2 weeks for the injections. Once Invega Sustenna hits the market, you switch him over to it. You explain to him that it is a metabolite of Risperdal, so he will not need to have the 2 loading doses 1 week apart. He is thrilled that he will now be receiving monthly Invega Sustenna injections instead of the bi-weekly Risperdal Consta. He walks out of the office a happy man. You're happy, too, because you know you've done a great job with this guy.

DIBS & DABS

Many clients do not have insurance (& are not eligible for it) or have an endless supply of money to spend on these expensive medications. So, there are a few things you can do to help them.

If the client is a citizen of the U.S. with a valid social security number you need to help them apply to a medication assist program. This can become complicated since the application usually needs to go the medication's specific pharmaceutical company. However, there is a website you can go to that can help you with this. It's called **needymeds.com**. This site is easy to navigate & has many of our meds listed. You do need to know both the brand name & the generic name of the medication you are trying to get for your client. If a medication is off patent then it will most likely be listed under its generic name. If you can't find it on needymeds.com then it probably is not a medication that is available through a medication assistance program.

Oregon has the Oregon Prescription Drug Plan available to uninsured & underinsured people. Just goggle opdp & the first option available is the site you are looking for. It takes less than 5 minutes for you to help the client apply for this plan. There are 2 problems I have seen with this, however. Many of the psychotropics are not listed & there are only certain pharmacies that accept their card. Many of these pharmacies ARE national chains, so that does help.

Check pharmacies websites to see if they have a reduced prescription plan. Most people are aware that Wal-Mart has their \$4 deal on many meds. Do check the various sites available because what is available in one pharmacy might not be available in another one. An example of this is bupropion is available through Target's reduced prescription plan, but Wal-Mart does not have it listed. This does take time, but it can really pay off for the clients. Shop around & get then the best deal that you can.

Make sure samples are available for as many different medications as you can get.