

DEPRESSION, ANXIETY, NIGHTMARES, INSOMNIA, AND OTHER MENTAL PROBLEMS

What's the Problem, and How Do You Diagnose It?

Many HIV+ people may at times experience anxiety, mental problems, depression, nervousness, dizziness, sleep disorders, nightmares, or other troubling mental problems. For some people, diagnosis will be accomplished simply through self observation. For others, being willing to listen to friends or significant others who have noticed such symptoms, or working with a psychiatrist or other psychotherapist may be necessary for accurate diagnosis.

What are the Causes?

There are several possible causes of such troubling mental symptoms, and in some cases, there may be several causes interacting to create the problems. As always, any such symptoms should be reported to your physician so that a medical diagnosis can ascertain if there are treatable causes.

□ Drug Side Effects:

For those on HAART, mental problems may certainly stem from the side effects of certain drugs. One drug that has been reported by many to cause very significant problems is the NNRTI efavirenz (Sustiva). The cognitive symptoms caused by efavirenz can include problems both during the day—muddled or unfocused thinking, impaired ability to concentrate, short-term memory loss, feelings of paranoia and disorientation, drowsiness, and altered moods, including euphoria, disorientation, anxiety, irritability, nervousness, and depression—and at night—insomnia and, when you get to sleep, vivid dreams and nightmares—sometimes the screaming heebie-geebe kind. Some people report feeling “stoned.” Some experience dizziness, lightheadedness, unsteadiness, or a loss of balance. Although very rare, serious psychiatric disorders have occurred in some, including severe depression, suicide attempts, aggressive behavior, delusions, paranoia and psychosis-like symptoms. Patients with a prior history of psychiatric disorders appear to be at greater risk for these serious problems.

Other antiretrovirals may also cause mental symptoms. Indinavir (Crixivan®) and ddI (Videx®) can cause chronic feelings of anxiety, usually low-level but sometimes more severe, in some users, and the symptom normally remains until the problematic drug is discontinued. Videx® can also cause nervousness and sleeping difficulties, although these are not very common. Abacavir (Ziagen®) can also cause trouble sleeping, as well as dizziness, problems which may or may not disappear after a period of a few weeks on the drug. Depression can be caused by nevirapine (Viramune) and saquinavir (Fortovase®).

How do you deal with it?

Tips for handling efavirenz. First, remember that many of the efavirenz-caused problems listed above may disappear gradually after several weeks on the drug, so waiting out the problem for at least a month is advisable, if you can stand it. However, for some people the problems will continue and stopping the drug is the only solution for those in whom the symptoms are just not bearable.

Before starting efavirenz, keep a few tips in mind. First, side effects do not always occur and vary from person to person. Your experience may be very different from that of another person's so don't program yourself to expect the worst. At the same time, be prepared for any side effects that develop. Be aware of other drugs or over-the-counter products that might increase the amount of efavirenz in your blood and, thus, increase the chance of experiencing side effects. For example, the protease inhibitor ritonavir (Norvir®) can increase efavirenz levels in the blood by 20 percent. Some physicians recommend starting the drugs a few days apart. Also, taking efavirenz with a high-fat meal can increase its levels in your blood, and make potential side effects seem worse.

Generally speaking, it is best to avoid recreational drugs, such as marijuana or alcohol, when starting efavirenz. Alcohol and drugs such as marijuana, cocaine, and speed, can worsen some of the central nervous system side effects of efavirenz. Consider beginning efavirenz on a weekend or taking a few days off from work since it make take a few days to get used to any mental changes.

Certain efavirenz problems can be resolved by rescheduling the dose. Generally, taking the drug before bedtime is preferred since many of its side effects are strongest within a few hours after taking the dose. If you take it before bed, you

may be able to avoid things like dizziness, impaired concentration, lightheadedness, and so on. On the other hand, if you find that the drug keeps you awake, taking it in the morning may be preferable. If you want to take it at night but find that sleep problems continue, try all the standard recommendations for improving sleep (see below). Some people have found that they can change their efavirenz dreams from nightmares to more pleasant dreams by simply doing something pleasant—watching a funny TV show or reading something humorous or enjoyable—before going to bed. Hey, it's worth a try.

If nothing else works, you can ask your doc for prescription meds; see below. For many other helpful tips on using efavirenz successfully, see “Tips and Tricks on Taking Sustiva,” at www.aidsmeds.com/drugs/SustivaTips/SustivaTips1.htm. And remember: always call your doc if a particular side effect seems particularly troubling or severe.

Tips on handling mental effects from other antiretrovirals. As with efavirenz, troubling mental effects caused by other antiretrovirals may disappear after a period of weeks or months on the problematic drug, but may also remain long-term. In some cases, drug stopping may be the only solution. In others, it may be possible to counter certain troubling symptoms with antidepressants or other medications. If indinavir (Crixivan®) or ddI (Videx®) appears to be causing chronic feelings of anxiety, it may be possible to counter this with an anti-anxiety drug (usually only recommended for short-term use since such meds are addictive) or an antidepressant (considered safer for long-term use). If such meds don't relieve the problem, it may be necessary to discontinue these drugs.

Videx® can also cause nervousness and sleeping difficulties, although these are not very common. Abacavir (Ziagen®) can also cause trouble sleeping, as well as dizziness, problems which may or may not disappear after a period of a few weeks on the drug. For the sleep problems, see the recommendations under that section below.

□ Nutritional or Hormonal Deficiencies, Stress and other Disorders:

Blood sugar imbalances and deficiencies of certain nutrients (the entire B complex, but especially B-6 and B-12) can also cause anxiety or depression. Since these conditions are quite common in HIV+ people, it's always important to consider the possibility that they are causing or contributing to any mental problems. Low blood sugar (hypoglycemia) and food allergies are also common contributing factors.

Inadequate hormone levels, particularly of testosterone (often deficient in both men and women HIV+ people) can cause significant depression, as can a thyroid imbalance. Testing blood and saliva hormone levels is very important to assess whether deficiencies might be contributing to depression and anxiety.

Stress may also cause symptoms of anxiety or insomnia. It is important to look honestly at your life to see if you are living under a difficult load of stress that might be contributing to mental problems.

Some people are particularly sensitive to the lack of sunlight in the winter, and develop what is called Seasonal Affective Disorder (SAD), a significant cause of depression. Remember that as with so many other things, HIV disease and its effects are not the only things you should consider when looking at symptoms. The same things that affect everyone else can affect you, too. This certainly goes for SAD. If you notice that you seem to become more depressed during the low-light winter months, this may be a contributing factor to any depression you experience.

And last but not least, many people may at some point experience depression, anxiety, sleep disorders or other mental problems that are not related to HIV disease but rather to life experiences, lifestyle choices, or underlying biochemical problems in the brain. It will always be important to consider this possibility, and discuss it with your physician or mental health counselor.

How do you deal with it?

Tips on Handling Depression and Anxiety In order to decide what is needed to counter depression or anxiety, it will be very important to accurately assess what is most likely to be causing these problems. Since anxiety, depression, and sleep problems are often interrelated, note that many of the suggestions overlap.

Key Treatments

□ **Consider therapy.** Don't ignore the possibility that stress and other lifestyle factors may be causing you symptoms of anxiety or depression. Just living with a difficult disease long-term can cause problems for many. Combining that with all the standard problems related to relationships, work, family, and so on can certainly cause depression or anxiety in many people. At times, therapy with a psychiatrist, psychologist, or other mental health therapist can work wonders so if you've been putting this off, schedule an appointment.

□ **It is very important to first try supplementation with the B vitamins that are frequently deficient in HIV+ people** since deficiencies of these nutrients can cause or contribute to both depression and anxiety. Most important in this regard are vitamin B-6 (try doses of 50 mg, taken with each meal) and B-12 (1,000 mcg, either taken daily via pills or lozenges, or one to several times weekly with prescription Nascobal nasal gel or injections). Always accompany such B vitamin supplementation with a B complex (taken daily with meals).

□ **In women, it is possible for female hormone problems, particularly the early menopause or perimenopause that many HIV-positive women develop, to cause depression or anxiety.** Again, testing of hormone levels followed by discussion with your physician of what may be appropriate for replacement therapy will be very important

□ **As mentioned above, hormonal insufficiency, particularly a low level of testosterone, is a frequent contributor to depression in HIV+ people.** It will be important use the results of testing blood and saliva levels of testosterone in order to decide whether hormone replacement therapy is needed. If it is, appropriate use of transdermal testosterone patches or gels can return testosterone levels to normal and often greatly improve or eliminate depression. DHEA may also be low in both men and women HIV+ people and supplementation may also be helpful with depression.

□ **Since depression can also be caused by certain drugs, including nevirapine (Viramune) and saquinavir (Fortovase®), it will be important to consider whether your depression began shortly after beginning such meds.** If so, it may be worth considering a drug substitution, where possible, in order to see if this improves your depression.

□ **If you have noticed that depression is worse (or only present) in the winter, consider the possibility that Seasonal Affective Disorder is at least part of your problem.** In this case, getting additional sunlight daily will often be extremely helpful. This can come by bundling up and spending time outside during the winter months, or via the use of full-spectrum lights indoors. These full-spectrum, daylight-simulating lights are available in many lighting stores or garden supply stores.

□ **The standard antidepressant drugs may certainly also help.** And remember that there are many different such meds available today so if one doesn't help, another might. If you find the side effects of a particular antidepressant troubling, know that other equally effective drugs might not have the same side effects. For example, while a number of the SSRI's (selective serotonin re-uptake inhibitors, drugs like Prozac) sometimes cause loss of sex drive, the antidepressant Wellbutrin not only does *not* cause that side effect, it actually seems to increase sex drive in many. With any such drugs, keep in mind this important caution: mixing many of these meds with herbs and/or with antiretrovirals can result in dangerous interactions. Always check with your doc and pharmacist before use. The same is true for herbal antidepressants like St. John's wort. This herb is widely used as a natural antidepressant but interacts with a number of different drugs and so should never be used without consulting with your physician on the possibility of interactions with any of your meds.

□ **Try aromatherapy. When stressful life conditions are contributing to anxiety or depression, lemon balm and lavender or other essential oils which are considered calming can be useful.** These can be effectively used by simply putting a few drops on a cotton ball or saturating a Q-tip and leaving it in the room. Some people find that putting these pleasant aromas in the room will help create a peaceful, calming atmosphere that will help to counter anxiety.

□ **Bach Flower remedies or other flower essence therapies may be helpful in reducing or even eliminating anxiety and depression.** These gentle healers are non-toxic, non-habit-forming essences of flowering plants that help to re-balance negative emotional states such as fear, anxiety, depression, or poor self-image, sometimes so well that some call them "Nature's Prozac." They have no floral scent or taste, and are not related to aromatherapy, which is closer to herbology. Rather, like homeopathy, they are classified as 'vibrational' or 'subtle energy' medicine.

Flower essences may be used in conjunction with any other therapy, and can be especially useful used along with psychotherapy. Each flower essence deals with a particular emotional state. In the Bach Flower Remedies, the original essences developed in England by Edward Bach, there are 38 different remedies, plus one combination, called "Rescue Remedy," "Calming Essence," or "Five Flower Formula," which is particularly useful for coping with any high stress or emergency situation, such as accidents, exams, dentist appointments, or temper tantrums. Rescue Remedy also comes in a cream form that is wonderfully soothing for burns, stings, cuts and other skin afflictions. Flower essences can

be used equally effectively with adults, children, animals, and plants. In addition to the original essences developed by Dr. Bach, there are now hundreds of other lines of essences made from flowers worldwide.

There are two basic ways to use the essences, for either occasional or long-term use. On an occasional basis, such as for passing stress or anxiety, they may be administered directly under the tongue or added to any beverage. For long-term treatment of more chronic problems, such as fears or trauma, a formula can be made up containing one or more remedies (up to a combination of six) in a one-ounce dropper bottle. The formula is then taken several times a day for a month or more. This method achieves much deeper acting, more long term results. In both cases, the dose is two drops of each remedy indicated (four in the case of Rescue Remedy), up to a total of six remedies. The remedies may also be added to bath water or sprayed in a mister or atomizer.

Flower essences are classified as over-the-counter substances regulated under the homeopathic pharmacopoeia of the Food and Drug Administration, and are available at most health food stores and many pharmacies, or directly from the manufacturers. The Flower Essence Society, in Nevada City, California, offers training, research, and an extensive list of publications. Information is also available on the Internet at a number of sites. An excellent guide to using Bach remedies is *Bach Flower Therapy: Theory and Practice*, by Mechtild Scheffer.

The following is an alphabetical list of specific flower essences for different situations or emotional states that may be contributing to anxiety or depression.

Key Bach Flower Remedies for Depression, Anxiety and Sleep Problems:

Rescue Remedy — Stabilizes emotions during high-stress situations, everyday upsets, or emergencies.
Dosage: 4 drops directly under tongue or in any beverage

All other remedies: Dosage: 2 drops directly under tongue or in any beverage

Cherry Plum — For fear of losing control of thoughts and actions.

Crab Apple — For feelings of self-disgust, poor self-image, feelings of contamination or uncleanness.
(May also be used to assist detoxification after exposure to germs or contaminants.) Take orally and/or add to bathwater.

Elm — For feeling overwhelmed or unable to cope with responsibilities. If also feeling panicky, combine with Rock Rose (see below).

Gentian — For pessimism, doubt, despondency, feeling discouraged.

Gorse — For deep hopelessness and despair.

Impatiens — For impatience, irritability.

Larch — For lack of confidence, anticipation of failure.

Mimulus — For timidity and fears of known things such as flying, heights, the dark, public speaking, etc.

Mustard — For melancholy or deep gloom with no clear origin.

Pine — For excessive self-criticism, guilt.

Red Chestnut — For fears and anxiety for the welfare of others, anticipating the worst.

Rock Rose - For panic, extreme fright.

Star of Bethlehem — For trauma, feelings of grief and loss.

Sweet Chestnut — For extreme anguish or despair, the feeling that one can't go on.

White Chestnut — For worries, repetitive or persistent unwanted thoughts.

Willow — For resentment about an unjust situation.

DEPRESSION

Key herbal and nutraceutical remedies for depression:

Damiana Herb (*Turnera aphrodisiaca*): Damiana is primarily used as a tonic for sexual enhancement in men. However, this function is attributed to its action as a tonic for the nervous system. One source reports that it may have testosterone-like activity. It is also specifically used as for anxiety and depression. It is ideally combined with wild oats. As a tea, steep 1 teaspoon of dried leaves over 1 cup boiled water for 10-15 minutes. Drink 1 cup 3 times daily.

Fish Oil (DHA Max) has been shown in a number of studies to have a good effect on reducing depression, aside from its benefits in managing blood lipid problems (high LDL cholesterol and the like). A recent study showed that as little as 1.2 g eicosapentaenoic acid plus 0.9 g docosahexaenoic acid over 12 weeks substantially reduced surrogate markers of suicidal behavior, while resulting in improvements in well-being (*Br J Psychiatry*. 2007 Feb;190:118-122.). Another study that analyzed numerous clinical studies underscored benefits in unipolar and bipolar depression (*J Clin Psychiatry*. 2006 Dec;67(12):1954-67.).

Lemon Balm Herb (*Melissa officinalis*): Lemon balm is rich in essential oils that relieve anxiety, depression, and stress. As a tea, steep 2-3 teaspoons of dried leaves over 1 cup boiled water for 10-15 minutes. Drink 1 cup morning and evening.

Lithium orotate is a safe form of lithium combined with orotic acid which make very low levels of lithium highly absorbable. It was developed in Germany by Dr. Hans Nieper . It is also useful for mild to moderate depression as well as irritability.

Perika Pro - St. John's Wort Flowering Tops (*Hypericum perforatum*): St. John's wort has been by far the most extensively studied botanical for the treatment of mild to moderate depression. The majority of studies have reported positive effects while a few have reported that it is ineffective. When viewed, as a whole, the literature clearly shows a beneficial effect. Numerous mechanisms of action have been postulated including MAO inhibition, serotonin re-uptake inhibition, and binding to numerous neurotransmitter receptors. However, none of these mechanisms have been confirmed in human studies so a conclusive determination regarding mechanisms of action can not be made. It is clear that a number of compounds, including flavonoids and hyperforin, are responsible for these effects. **Jarsin** is a German pharmaceutical-grade extract that has been proven effective in double-blind, placebo controlled trials for moderate depression. Suggested dose is 300 mg of extract (approximately 5:1) three times daily.

Caution: St. John's wort has been reported to affect cytochrome P-450 enzyme systems and may negatively interfere with the efficacy of some medications used in the HIV+ and AIDS communities. Consult a qualified health care professional when using St. John's wort with conventional medications. Otherwise, numerous studies have established it as a very successful intervention for mild-to-moderate depression. (One American study that was widely reported to show it was worthless is flawed as it studied major depression; and even the antidepressant with which it was compared did not do well.) If you decide to risk using this while on antivirals, make sure to start at the same time you get blood work done. Then, at the next blood work (preferably within a couple of months), see if there is any trouble or deterioration in viral load or CD4 count.

Skullcap (*Scutellaria lateriflora*): Traditionally, skullcap has been one of the most widely used herbal nervines in Western herbalism. Despite its widespread use in the US, it has not been subject to scientific research and so mechanisms of action are not known. It is considered by herbalists to be a very safe botanical, even for long-term use. It is specific for nervous tension, muscular cramping, seizures, anxiety, irritability and restlessness, sleeplessness due to anxiety and irritability; nervous dyspepsias, irritable bowels, tension headache, and menstrual cramping.

Caution: The potentially hepatotoxic germander (*Germander chamaedrys*), is often confused with skullcap in commercial products. Therefore, proper identity of the plant used in the product must be determined prior to use.

SAM-e is an interesting compound of the amino acid methionine and adenosine triphosphate (ATP), the basic energy unit in the body that serves as a critical co-factor in a wide range of reactions. It is a highly efficient methyl donor: methyl groups are needed for the body to synthesize its own carnitine and various neurotransmitters (brain chemicals) such as L-dopa, acetyl-L-carnitine, epinephrine and other compounds. SAM-e helps improve liver function and bile flow and reduce fatty liver and itching, and has been shown to reduce depression. It also has anti-inflammatory properties. Best when taken with adequate levels of vitamins B6, B12, and folic acid, as well as betaine. SAM-E can be very effective for moderate depression, though costly, for the suggested dose for depression is 4-6 tablets twice per day. Build up slowly, separating increases in dose by three days apart.

Theanine with Relora is an excellent formula for managing anxiety and depression. A complete description is provided below under SLEEP PROBLEMS.

Wild Oats Herb (*Avena fatua*): Wild oats is widely used among western herbalists as a tonic for nervous exhaustion. Unfortunately, there is little research regarding its actions. Among herbalists it is used to support the nervous system, promote sleep, reduce stress, and treat anxiety, especially that associated with withdrawal symptoms. Works well combined with damiana.

NYBC Products for Anxiety and Depression:

Damiana Tincture x 4 oz	70 - 180 drops (2-6 mL) 3/day
Fish Oil (Max DHA)	5-8/d (2B, 2-3L, 2-3D)
Lemon Balm Tincture x 2oz	35 - 70 (1-2 mL) drops 3x/day
Lithium Orotate 120mg x 200	3/d (1B, 1L, 1D)
Melatonin	1/d (some dispute whether to take before bed or earlier in the day; start with 1 mg up to 5 mg)
St John's Wort .3% 300mg x 250	3 - 6/d (1-2B, 1-2L, 1-2D)
Perika Pro	3/d (1B, 1L, 1D)

SAM-e 200mg x 60	4 - 6/d in two divided doses
Theanine w/Relora	1-2/d (1-2D or before bed)
Wild oats Tincture x 2 oz	35 - 70 drops (1-2 mL 3x/day

ANXIETY

□ **Flower essence therapy.** Key Bach flower remedies for anxiety include Rescue Remedy, Cherry Plum, Elm, Gentian, Impatiens, Larch, Mimulus, Red Chestnut, Rock Rose, and White Chestnut. **Dosage:** 2 drops directly under tongue or in any beverage, except Rescue Remedy, 4 drops. See the discussion and list of remedies above under **Handling Depression and Anxiety** for a description of each remedy and more detailed instructions for use.

□ **Music and Color Therapy.** Music can be effective in reducing anxiety. Color therapy, particularly using the colors blue, green, pink, and violet, can also be useful in inducing relaxation and calm.

□ **Stress Reduction techniques.** Research has shown that there are very specific effects of stress reduction techniques such as meditation, yoga, progressive relaxation techniques, and breathing exercises that can help to decrease anxiety and stress, relax the body, and program it toward healing. In addition to the discomfort of living with anxiety, stressors such as anger, anxiety, and sadness can cause the release of potentially immunosuppressive stress hormones. By using stress reduction techniques you may significantly diminish or even eliminate the negative body effects that the stress hormones might otherwise create. For a fuller discussion of these approaches, see the **Countering Stress with Meditation, Yoga, Relaxation, and Breathing Exercises** of the **Self-Care Guide**.

□ **Progressive Relaxation.** Lie down in a comfortable position. Starting with your feet, first tense and then relax every muscle in your body, moving up gradually from the tips of your toes all the way to the top of your head, focusing on each muscle or set of muscles in turn. As you do this, note the difference in feeling between a relaxed muscle and a tensed one. As you continue to do this, you will really learn the feeling of relaxing a tensed muscle. Ultimately, you will be able to create this relaxation state with one quick word to yourself like "Relax," and untense every muscle in your body in a matter of seconds.

□ **Meditation.** Meditation might be described as the practice of focusing awareness in the present moment. Although meditation can be calming and energizing if done occasionally, the best effects come from doing it on a regular basis. There are many techniques of meditation from different traditions, including yoga, Zen Buddhism, and Christianity. The process might involve concentration, contemplation, or a combination of both, for example focusing on or counting the breath with eyes closed, or keeping them open and focused on nothing in particular or on a blank wall or candle.

The following is a simple sitting method from the yoga tradition:

In preparation, choose a quiet place where you will not be disturbed and set aside one half-hour of time. Screen out noises and other interruptions by turning down phones, answering machines, etc. and asking people not to disturb you.

1. Choose a word, phrase or thought to use as the focus of the meditation. We call this the mantra, a Sanskrit word referring to a sacred sound for healing and spiritual development. (Examples include the traditional Sanskrit "om" or "om mani padme hum". Or one might use words such as Serenity, Peace, One, Love or a phrase such as "I love myself," or "Every day in every way, I am getting better and better," or "I live in a state of abundant health and prosperity.")
2. Sit comfortably with back straight. Loosen any tight clothing and if possible remove shoes.
3. Close your eyes and after a few seconds begin to silently repeat to yourself the mantra you selected.
4. Do not force or concentrate heavily on the mantra; allow it to come and go easily and naturally. You may find that it falls into rhythm with your breathing or some other pattern. In this technique, total concentration or emptying the mind are not the goal. If thoughts intrude, let them go by, but whenever you become aware that you are not thinking the mantra, gently return to it. Having many thoughts in meditation is simply a sign of stress being released.
5. Continue thinking the mantra for twenty minutes. You may peek briefly at a watch or clock to check the time. (Do not set an alarm clock!) When twenty minutes are up, simply stop saying the mantra in your mind. Remain sitting quietly with your eyes closed for at least three minutes, five to ten minutes if necessary; whatever is comfortable. This is very important: If you open your eyes too soon, some discomfort (headache, shakiness) may result. If you feel any distress upon opening your eyes, close them again for a few more minutes.

What to expect during and afterwards

- If you are very stressed out when you start, you are likely to feel somewhat restless during the process. If this is the case and you have trouble sitting still for the full twenty minutes, first try just treating the restlessness like any other thought and calmly letting it go by, returning to the mantra. If that doesn't work, you may want to start out with just five minutes and gradually work up adding a few minutes a day over a week or two. Like any skill, this takes practice; be patient with yourself.
- If you are very tired when you begin, you may fall asleep. This is fine. Try to resume meditating for a few minutes before opening your eyes completely.
- In any case, afterwards you are likely to feel both calm and energized, a wonderful feeling. If you begin to meditate regularly once or twice a day, after a few days or a week or two, you may experience some other effects; for example, you may feel more tired or emotional for a brief period. These are common signs of built-up stress being released, and this is all the more reason to try to keep up the practice regularly. If possible, try to get some extra rest in between, or lie down for five or ten minutes after each meditation. These reactions should pass within a week or two at most.

□ **Breathing Techniques.** Yoga classes are a widely available resource for learning meditation, and they will usually also provide training in another valuable technique, deep breathing. The breathing technique known as alternate nostril breathing is particularly useful for countering stress and anxiety.

Nutraceuticals for Anxiety. Many of the same herbs that are useful for sleep problems (discussed below) can also be used at lower doses during the day for the treatment of anxiety, including lemon balm, wild oats, and damiana. There are a number of herbal combination formulas that include these or other helpful herbs; one of these is Tyler's

5-HTP; The primary uses for this supplement are to help offset depression, improve sleeping and to inhibit appetite. (Most people with HIV, though, NEED to eat.) 5-hydroxy-tryptophan (5-HTP) is part of a pathway used by the body to produce serotonin. The amino acid tryptophan is converted to 5HTP and then to serotonin. Serotonin is a chemical used for a variety of functions in the brain (and part of a class of compounds that deliver messages between brain cells (neurons) called neurotransmitters). Increasing serotonin levels in the central nervous system may help to offset depression. This is also important for production of melatonin. Indeed, this may be a true alternative to Prozac and other such drugs for some people (all of which have their own significant limitations in terms of efficacy and their significant side effects). One study showed comparable activity with fewer side effects in treating depression when compared to fluvoxamine/Luvox. If using for sleep or depression, consider using only before bedtime. It has been used to treat obese subjects, as it results in decreased appetite and reduced carbohydrate intake with early satiety (feeling full faster). This may be a BAD IDEA for people with HIV who do NOT need to lose appetite. **This is another good reason to take it 1 hour before bedtime.**

CAUTION: DO NOT TAKE VITAMIN B6 AT THE SAME TIME AS THIS! (At least not within 2 hours of using HTP.) B6 is a coenzyme that works with the decarboxylase enzyme. This latter decarboxylase clips a COOH of 5-HTP, turning it into serotonin. Fine if this happens in the brain. Not fine if this happens in the liver. Peripheral blood increase in serotonin is important. Use this supplement only if you are cutting back on B6 intake (max 25 mg/day) and for as short a period of time as possible. Again, if you separate multi usage by a few hours at least and take this an hour before bedtime, this should reduce any interaction problem with vitamin B6.

DO NOT TAKE WITH MAO INHIBITORS OR OTHER ANTIDEPRESSANTS. Also, may not be a good idea to mix with St. John's wort. Also, do not use if pregnant or nursing, trying to conceive or under 18. If you have a medical condition, take only under the advice of your healthcare provider.

Kava Root (*Piper methysticum*) has been used in the South Pacific for centuries as an anxiolytic and muscle relaxant. Numerous double-blind, placebo controlled studies have reported on its effectiveness for the treatment of anxiety. It is also extremely effective as a muscle relaxant and anticonvulsant. Specific indications of kava include: nervousness, restlessness, anger, sleep disturbances, and muscle tension. Part of its action is considered to be due to a binding of kavalactones to GABA receptors. (GABA, or **gamma-aminobutyric acid**, is an amino acid found in the central nervous system that is associated with the transmission of nerve impulses.)

Caution: Recently there have been reports of hepatotoxicity associated with kava use. This appears to be a rare occurrence. Discontinue use if symptoms such as nausea, malaise, and jaundice occur. Therapeutic doses can cause loss of muscular coordination. Do not drive or operate heavy equipment when using kava. It may potentiate the effects of alcohol, barbiturates, or antidepressant medications.

Theanine is an amino acid derived from green tea which has noticeable calming effects without lessening mental acuity. It is a marvelous intervention that helps sleep enormously from personal experience! There's a more complete discussion on the Theanine/Relora combination that NYBC has below under SLEEP PROBLEMS.

A number of the herbs used for depression also work nicely for anxiety. These include **Skullcap, Damiana, Wild Oats Herb and Lemon Balm.** See descriptions above.

NYBC Nutraceuticals for Anxiety:

5-HTP	1-2/d (1-2D or before sleep)
<i>Bacopa monniera</i>	3/d (1B, 1L, 1D) – start with one or two a day
Kava 30% 250mg x 120	3+/d (1B, 1L, 1D) (<i>not currently available at NYBC</i>)
Lemon Balm Tincture x 2 oz	15 - 30 (.5 - 1 mL) drops 3x/day
Skullcap Tincture x 4 oz	15 - 60 drops (.5 - 2 mL) 2x/day
Theanine 100mg x 90	3+/d (1B, 1L, 1D)
Wild Oats Tincture x 2 oz	15 - 30 drops (.5 - 1 mL) 3x/day

SLEEP PROBLEMS

What are the Contributing Factors?

For women, it is important to consider the possibility that perimenopause or menopause (often premature in HIV-positive women) is contributing to sleep problems. It is not uncommon for women to develop sleep problems at these life stages, in some cases because hot flashes and night sweats are occurring nightly. Because they don't usually cause the woman to become fully awake, she may be unaware that this is the problem, but the hot flashes will disrupt normal sleep sufficiently to cause fatigue the next day. If this goes undiagnosed, women may be in bed for a healthy eight or nine hours but still find themselves waking up exhausted. In such cases, testing of female hormone levels followed by discussion with your physician of what may be appropriate for replacement therapy will be very important.

In some cases, depression can be causing sleep problems. If you have been diagnosed as depressed, it will be important to work on this problem in order to help with sleep disorders it might be causing. [See *Handling Depression*, below.]

Improving daytime energy and getting regular exercise may help with sleep problems. If you are feeling too fatigued for normal life activities and thus not being active during the day or not exercising appropriately, you may find it more difficult to sleep normally at night. Regular exercise (done well before your usual sleep time) is often very helpful for those with sleep problems. [For more information on countering fatigue, see *Fatigue*; for more information on getting appropriate exercise, see the *NYBC Self-Care Guide*.]

How do you deal with it?

Tips on handling sleep problems. Whether your insomnia is caused by drugs like ddI (Videx®) or abacavir (Ziagen®) or by life problems, life choices, or biochemical goings on in your brain, there are approaches that may help. First, try all the standard recommendations for increasing sleepiness and improving the likelihood that you'll fall asleep when you want to:

□ **Try to avoid drinking or eating anything with caffeine, sugar or alcohol for 4–6 hours before bedtime.** The caffeine and sugar can keep you from being able to fall asleep since both can create an artificial feeling of buzzed up energy. Caffeine stays in the body for a number of hours so your last cup or glass of caffeine-containing beverages should come no later than your supper time. Alcohol causes abnormal brain activity that prevents normal, deep restful sleep and, thus, should also be avoided.

□ **Try to avoid nicotine for 4–6 hours before bedtime.** Nicotine is a stimulant that could keep you from falling asleep when you want to.

□ **Try to avoid strenuous exercise, bright lights and television before bedtime.** Exercise in the late evening has been shown to be associated with poor sleep quality. However, exercise earlier in the evening has the opposite effect and may help create more restful and less interrupted sleep. Bright lights may actually suppress your natural production of melatonin, the natural sleep hormone, and thus make falling asleep more difficult. Watching television may be too stimulating, and prevent the normal wind-down that would precede sleep.

□ **Try relaxing before bedtime by doing peace-inducing yoga or breathing exercises, indulging in a soothing bath, or sipping calming herbal teas like chamomile.** All of these can help induce sleep.

□ **Try eating foods containing tryptophan in the evening: turkey, bananas, figs, dates, yogurt, milk, whole grains, nuts.** Tryptophan, a precursor to the chemical serotonin, is involved in the induction of sleep.

□ **Try having a snack before bedtime.** Low blood sugar can make it difficult for people to sleep through the night.

□ **Try a homeopathic or Bach flower remedy.** To most conventional medical practitioners, homeopathy and flower essence therapy remain controversial, but many individuals and naturopathic and other complementary medicine practitioners report very positive effects from the use of such remedies. Some specific suggestions are offered below.

If part of the problem is the environment you're surrounded by, make any adjustments you can to yield improvements. If the person you live with likes to fall asleep watching television and that keeps you awake, discuss it and see if s/he could watch in another room or perhaps have the watcher use a headset so the room remains silent. If there's too much light in your room, try an old-fashioned sleep mask. They really do help and the soft satin ones are perfectly comfortable. If you need even more sound dampening, try the soft, foam-rubber ear plugs. They'll block out almost anything so you might want to check to make sure that the ones you choose will still allow you to hear your fire alarm.

Researchers studying sleep patterns generally advise that the room you sleep in be restricted to that. In other words, don't make it a work area also. That way, just entering the room will suggest sleep to you. In general, do everything you can to set up a sleeping environment that will help to induce sleep rather than the opposite.

Sleep researchers also advise keeping your sleep times to as regular a pattern as possible. In other words, try to go to bed at approximately the same time every night so that your body learns to expect to sleep at that time. Avoiding naps or sleeping late can also help if being able to fall asleep has been a problem. By keeping to a more regular sleep schedule, you will be more likely to feel truly sleepy at the appropriate time.

If you have come to expect that you will have trouble sleeping, that expectation, in and of itself, may cause problems. The very fact that you are afraid that you won't be able to sleep may promote wakefulness. Where this appears to be the case, it is best to not get into bed until you feel sleepy. In addition, any time that sleep hasn't come within 20-30 minutes, sleep researchers advise that you get back up and go back to your normal late-night activities until you feel sleepy. The idea is that you re-program yourself so that the bed once again becomes something you associate with sleepiness, instead of distress.

Sleep researchers also suggest some sort of regular, wind-down period before sleep. What works will be different for each individual. This might be a half hour of quiet reading, some time spent listening to peaceful music, a little quiet meditation, or whatever works best to put you in a relaxed, sleepy frame of mind.

Meditation, yoga, biofeedback, visualization therapy, and many different forms of relaxation techniques have all been seen to improve sleep. These can help in many ways and are definitely worth a try if nothing else seems to be helping your ability to get enough sleep.

Key Treatments

Regardless of the cause of sleep problems, some people may need to use agents to induce sleep, at least for a period of time to help re-establish normal sleep patterns. After this is accomplished, it may be possible to discontinue such therapies.

☐ **Aromatherapy may help induce sleep.** Essential oils of lemon balm or lavender or other oils considered calming may sometimes help provide a more favorable environment for sleep. Using these can be as simple as putting a few drops on a cotton ball or saturating a Q-tip and leaving it in the room. Some people find that putting these pleasant aromas in the room will help create a peaceful, calming atmosphere that will be useful for summoning sleep. These oils can also be put in bath water. Taking a hot bath with lavender just before bedtime, followed by a cool water rinse, is very calming and may help induce sleep, especially if you then immediately crawl into your warm, cocoon bed.

Lavender Oil 1oz	1 drop
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☐ **Acupuncture has also been found to be very helpful for people experiencing sleep problems.** As with all other uses of acupuncture, practitioners would do whatever they diagnose as being necessary to balance the body's energy and address all aspects of the person's condition, rather than focusing solely on sleep issues. The number of visits that may be required will vary, depending on the individual, but many people report speedy improvement in sleep after only the first visit or two. Maintenance visits may be required to maintain the effectiveness.

☐ **There are homeopathic and flower remedies that may help with sleep problems.** Calms Forte is a homeopathic remedy that many people find useful in relaxing them enough to allow them to drift off to sleep. If caffeine is the source of the problem, the homeopathic remedy Coffea Cruda (highly dilute and potent coffee) in 30c potency should help (remember the principle "Like cures like") - dissolve one pellet under the tongue and expect it to take 15-30 minutes to take effect. If the cause of the insomnia is thoughts and worries that just won't stop, try the Bach Flower remedy called White Chestnut, which helps to eliminate "persistent unwanted thoughts." (This will work during the day as well.) If overall stress and anxiety are the problem, the Bach Flower combination Rescue Remedy would be the one to try. A few drops under the tongue summons a calming effect. It can be repeated every few minutes, if necessary, until the relaxation that will help induce sleep comes. There is also a cream form available that can be rubbed on the wrists or forehead to provide a lasting effect.

Coffea cruda 30c	1 pellet under tongue 15-30 minutes before bed
White Chestnut	2 drops under tongue or in beverage

□ **The amino acid l-tryptophan, or its downstream metabolite 5-hydroxy-tryptophan (5-HTP) can promote sleep because it is the base from which your brain cells enzymatically produce serotonin which is in turn the precursor of melatonin.** Thus, it has long been known to be an effective sleep aid. 5-HTP is actually preferable as a supplement because 5-HTP is converted directly to serotonin, while tryptophan itself could be converted to other substances in addition to serotonin. It's important to take 5-HTP with 50 mg of B₆ because B-6 is used to convert 5-HTP to serotonin. Many 5-HTP products contain B-6. Appropriate dosing 50 to 150 mg an hour before bedtime works for most. If GI tract irritation develops discontinue use. The addition of glycine (500 mg) to this package may also help since it is a calming amino acid and seems to increase the overall effect in summoning sleep. [In case you're remembering the controversy created about tryptophan a number of years ago, it turned out that the whole problem was contamination of specific batches from a specific manufacturer rather than any problem related to the amino acid itself. It is perfectly safe to use, and once again available.]

5-HTP 50mg x 90	1 - 3 one hour before bed
B-6/P-5-P 50mg x 100	1 with 5-HTP

□ **There are several herbal remedies that may help with sleep.** The traditional cup of chamomile tea before bedtime can be quite useful. It may work better if you use two bags of chamomile tea and brew it for a good ten minutes or so. If you don't like the flavor, use an additional bag of some other herbal tea that you do like (but not a black tea since this contains caffeine). A combination tea made with chamomile and lavender herb (not the oil but rather the lavender herb tea) may also help. Other herbs that can have a calming effect to help you drift off to sleep are kava, wild oats herb, damiana, valerian root, hops, and passion flower. (See the complete descriptions above under **Key herbal remedies for depression.**)

Passion Flower (*Passiflora incarnata*): One of the most widely used calmatives in the botanical kingdom. It is specifically used for nervousness and to promote a restful night's sleep, especially when there is difficulty falling asleep. May act as a monoamine oxidase inhibitor (MAOi) and therefore may elicit mild antidepressant effects.

Dosage: 2-4 mL of tincture twice daily.

Theanine is an amino acid found in green tea, also known as N-ethyl-L-glutamine. It has been shown in the test tube to protect neurons against damage caused by glutamic acid (by blocking the receptors in the brain where glutamic acid would bind) and oxidation of low density lipoprotein (LDL or bad cholesterol). A recent study showed it to be very safe with a no-observed-adverse-effect-level (NOAEL) of 4000 mg per kilogram of body weight per day, the highest dose tested (*Food Chem Toxicol*, 2006 Jul;44(7):1158-1166).

It acts as a relaxing agent by increasing levels of various brain chemicals (neurotransmitters) including serotonin, dopamine and GABA (gamma amino butyric acid). Behavioral studies in animals suggest it may improve learning and memory. Human studies are largely lacking, so far. One small study, placebo controlled but only among 7 participants, showed a decrease in heart rate as well as a reduction in salivary sIg-A production, indicating a calming of the sympathetic nervous system activation, underscoring a potential mechanism for its anti-stress activity (*Biol Psychol*, 2007 Jan;74(1):39-45. Epub 2006 Aug 22.). Interestingly, a mouse study suggested that the use of theanine may enhance the tumor-suppressive effects of chemotherapy drugs like doxorubicin (*Biochim Biophys Acta*, 2003 Dec 5;1653(2):47-59).

Taurine is also an essential amino acid that may protect against oxidative stress, neurodegenerative diseases or atherosclerosis (*Curr Opin Clin Nutr Metab Care*, 2006 Nov;9(6):728-733). Like N-aceylcysteine (NAC), taurine is a sulfur-containing amino acid. It may also have some benefits for liver function.

The Relora part is a combination of *Magnolia officinalis* and *Phellodendron amurense*>. Magnolia has been used in Chinese medicine for a variety of conditions and a class of chemicals (alkaloids) that it contains have effects on muscle relaxation. Phellodendron bark also contains alkaloids that are used in the Chinese tradition to remove heat and dampness. It may also have some antibacterial activity. The combination of the two was shown to inhibit weight gain (but not result in weight loss) in a study of obese women (*Altern Ther Health Med*, 2006 Jan-Feb;12(1):50-54). This may be a result of a reduction in cortisol levels which may be elevated in HIV disease.

Contains wheat. Do not use if pregnant or if using other MAO or serotonin-reuptake inhibitors.

NYBC Nutraceuticals for Sleep:

Melatonin	1-5 mg an hour before sleep; start with 1 mg
Theanine with Relora	1 - 2 one hour before bed

Wild Oats x 2 oz + Damiana x 4 oz	30 – 60 drops/ 60 - 120 drops one hour before bed
Passion Flower x 4 oz	60 - 120 drops one hour before bed

□ **Another possibility is the body's natural sleep hormone, melatonin.** This hormone is secreted by the pineal gland in response to darkness. Its secretion normally increases dramatically at night, although some is produced during the day. The pineal gland is believed to function as a sort of biological clock, helping to control the body's circadian rhythms, the biological cycles that recur over 24 hour intervals. Melatonin is the body's natural sleep promoter and has been found to be useful in the treatment of various sleep disorders, including not only insomnia but also delayed sleep phase disorder and jet lag-related sleeping problems.

Melatonin has been found to very useful for eliminating insomnia in the elderly, many of whom appear to develop sleeping problems in response to the decreased secretion of melatonin that occurs with aging. In the elderly, the lessened amount is also often combined with a later peaking of the amount secreted. The maximum peak is also reduced to only half of what is produced in young adults. It appears that people living with HIV may also have decreased levels and, possibly, later peaking, the combination of which can cause insomnia. Thus, supplementing melatonin may be equally successful for HIV+ people. Although no research has been done to date in this area, it is a logical conclusion that it might be as effective in this population as it has been in others. Since, as opposed to virtually all pharmaceutical sleep medications, melatonin promotes natural sleep patterns, and is also both inexpensive and non-toxic, it would seem an obvious thing to try if sleep problems are occurring.

However, one caution is in order. The timing of melatonin use is important. Research has shown that for those with insomnia it is usually desirable to take the melatonin 2-3 hours before the desired bedtime in order to best improve sleeping patterns. However, some people will feel very sleepy within an hour of taking it and would, therefore, need to time their dose so it's being taken approximately an hour before they wish to be asleep. For those who wish to adjust their sleeping pattern so that they can fall asleep earlier than they have been or who wish to use it to prevent jet lag problems, it's probably best to take the melatonin 2-3 hours before the desired new bedtime (the time when you will want to fall asleep at your destination).

It appears best to start with a low dose of melatonin and then increase it if necessary to obtain the results you want. Rather than taking the entire dose in the hour or two before bedtime, some people prefer to try to mimic the normal melatonin cycle that would exist in a healthy young person. To do this, they take a small amount early in the evening, and then take the rest of the dose they need to accomplish a good sleeping pattern an hour or two before bedtime.

Since absorption of melatonin varies significantly from one person to another, the best advice on dosing is simply to start with a low dose and work up to what works best. Doses of only 100-300 mcg (0.1-0.3 mg) may be plenty for most people, although doses as high as 10 mg might be required for some. Although sleep studies have seen no difference in how rapidly people fall asleep in response to either time-released or fast-released melatonin, those given a time-released form appear to maintain their sleep better. So if you want to increase your chances of staying asleep through the night, stick with a timed-release form. The slow release of a low dose (100-300 mcg) best mimics the natural production that young, health bodies would normally make at night.

The use of melatonin should obviously be adjusted, based on results. For example, if you wake up feeling groggy, you might want to take the melatonin earlier or reduce the dose. If you wake up in the middle of the night, you will definitely want to use a timed-release form and you might want to take the melatonin later than you have been taking it, or, possibly, increase the dose. Again, just adjust based on results until you're getting a good, restful night's sleep, without interruption and with the ability to wake up feeling rested and ready to go. Once you have developed your regimen, it is advisable to stick with it. If your schedule is interrupted for any reason such that you fail to take the melatonin at the normally scheduled time, it's better to just skip that night's dose rather than taking it hours later than usual. If you make that mistake, you may find that you will wake up with a melatonin-induced case of jet lag grogginess since your circadian rhythm may have been delayed. After melatonin is taken, the effect is very gentle and most people will simply feel sleepy in a very normal, non-drugged way.

However, be warned. Although the feeling is simply that of normal sleepiness, rather than any kind of drugged feeling, it makes some people feel very, very sleepy when it kicks in. You would *not* want to be driving at the time or, for that matter, anywhere but one foot away from your bed. Do *not* take a melatonin supplement if there is any chance that you will have to drive. Falling asleep at the wheel of a car is estimated to kill thousands of people yearly; don't risk it. And it would be far better to not take it, even if you're not driving, if there's any chance that you will not make it home and to your bed within the hour. Even though this would be true of any sleep medication, we state it strongly because of our fear that someone might be thinking that it's *only* a naturally produced hormone so nothing to be concerned about. You should be concerned and should not take melatonin and drive. Just because it's natural doesn't mean it's not powerful in its effects.

Melatonin, sublingual 3mg x 180	1-4, one hour before bedtime
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□ **If none of the above works and your remaining choice is either to take a prescription sleeping medication or not sleep at all, then by all means ask your physician for the help you need.** However, do remember that most sleeping medications result in an abnormal type of sleep that isn't as restful as the natural kind. So the preference would be to use these when truly needed, but try to avoid long-term use.

Note that people who are depressed may experience sleep problems related to that. Thus, treating the depression may improve sleep. It is thought that for sleep problems related to depression, benzodiazepines are the drug of choice. However, they are potentially addictive and may cause withdrawal symptoms when discontinued. They may also cause a hung over feeling in the morning. Antihistamines such as diphenhydramine and sedating antidepressants such as doxepin and trazodone will not become addictive but do cause a number of side effects that may be problematic.

If medications are needed during a particular period when insomnia is a serious problem, most sleep researchers recommend experimenting with not using them after you're back to regular sleeping. Many people find that they are able to return to unmedicated sleep after they've gotten through a troublesome period. Sedatives like lorazepam (Ativan) or temazepam (Restoril) can also help many people fall asleep. Just remember that with long-term use, these drugs can be addictive so antidepressants may be a better choice. The antidepressant nefazodone (Serzone) helps some people who have difficulty remaining asleep through the night.

There are several effective, non-addictive drugs available for short-term use. Gravol (an anti-vomiting med) or Benadryl (an antihistamine) can be used safely for the occasional bout of insomnia. Any such drugs should only be taken after careful discussion with your physician of the pros and cons, and careful consideration of any possible drug interactions. [For more information on getting a good night's sleep, see *NYBC's Self-Care Guide*.]