

SEXUAL DIFFICULTIES

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

Sexual difficulties may be present in both men and women living with HIV. There may be erectile dysfunction (impotence, the consistent inability to attain and maintain an erection of sufficient quality for satisfactory sexual functioning) in men, sexual arousal disorder (inability to become sexually aroused or have an orgasm) in women, and/or decreased sexual desire (loss of libido, lowered sex drive) in both men and women. The incidence of these various problems is not clear because there has been relatively little research that has looked at this problem in HIV+ people (especially in women), but in the research so far done, it appears to be quite high. It is believed that because of the tendency to *not* talk about such problems on the part of both HIV+ people and their physicians, the incidence of sexual problems may be vastly under-reported by clinicians.

In one study done a number of years ago, 89 HIV-positive gay men at various disease stages were compared to 84 HIV-negative gay men. There were no reports of sexual problems from those who were HIV-negative or the HIV+ people who were in an early asymptomatic disease stage. However, both mildly symptomatic HIV+ people and those diagnosed with AIDS had higher frequencies of erectile dysfunction (12.5 percent of mildly symptomatic men and 49 percent of those with AIDS). Loss of libido was reported in 25 percent of the mildly symptomatic men and 40 percent of the men with AIDS. Over the years, a number of surveys related to HIV-positive women's symptoms (as well as countless anecdotal reports) have shown that this has long been a widespread problem among women, as well.

More recently, a large study of over 900 HIV+ people in various disease stages (80 percent of whom were men, and 20 percent women) using an anonymous questionnaire found that 38 percent of men and 29 percent of women reported a loss of libido. In addition, a decrease in sexual potency (a tendency toward impotence) was reported in 29 percent of the men.

Another recent study found an even higher level of sexual difficulties. Of 156 HIV-positive men on HAART, 111 (71 percent) reported problems. Of the 111 men, 99 (89 percent) reported a reduction or loss of libido, 96 (86 percent) reported erectile dysfunction, 76 (68 percent) reported orgasmic disorders, and 65 (59 percent) reported ejaculatory disorders. In a comparison of those who had been receiving an ongoing PI-containing HAART regimen for more than one month, those who had never received PI treatment, and those who had stopped taking PI therapy more than one month previously, no significant difference was seen. A history of sexual dysfunction before becoming HIV-positive was reported by 18 percent. A history of sexual dysfunction during the period after becoming positive but before beginning HAART was reported by 32.4 percent.

It is known from studies in the general (non-HIV) population that such problems occur with more frequency with increasing age. It is estimated that erectile dysfunction affects more than half of men over the age of 40, and two-thirds of men over the age of 65. However, thinking of this as only a problem for those past a certain age would be a mistake. One (non-HIV) study found that 43 percent of women and 31 percent of men younger than age 60 have experienced some type of sexual dysfunction.

Diagnosis is based on self-reporting of symptoms to physicians, but it appears that this may happen far too little. An extremely interesting finding of the study of 89 HIV-positive men discussed above was that there had been absolutely no discussion of their sexual problems between most of the men and their physicians. The obvious conclusion is that neither the physician nor the HIVer with sexual problems had brought this up during their standard medical visits. And if a problem is not even mentioned, it certainly won't be treated.

Because there are so many treatable causes of sexual dysfunction in HIV+ people (men and women both), it is crucially important that this topic be discussed, and that aggressive diagnosis of all possible contributing causes be carried out. The importance of finding and treating causes in order to return a normal sex life to HIV+ people was eloquently expressed years ago by Sean Current who wrote, "Sex is part of our whole being. Sex is part of our intimacy, our communion, with ourselves and others. It's part of our health and well-being. To be touched and loved, caressed and stroked, is as necessary to our lives and health as is breath."

What are the Causes?

Sexual dysfunction has multiple possible causes in HIV+ people. In many people, there may be more than one factor contributing to the loss of function or desire. It should never be forgotten that in addition to causes that may relate to various aspects of HIV disease (for example, hormone deficiencies and antiretroviral side effects), all the other causes known to contribute to sexual problems in the general population may also be contributing to problems in HIV+ people.

Hormone deficiency and hormone over-use. Having inadequate levels of one or more hormones is a particularly likely cause of sexual problems in HIV+ people. Both men and women may have testosterone levels that are lower than normal in HIV disease. With low testosterone comes loss of libido and in some cases also of functionality (impotence in men and sexual arousal disorder in women). For women, there may also be changes in the level of female

hormones that can contribute to sexual arousal disorder. The vaginal thinning and dryness which can contribute to this may develop in HIV-positive women at younger ages than is the norm due to the earlier than usual development of perimenopause or menopause that so often occurs.

Inappropriate use of too-high doses of testosterone (especially through injections) can ultimately lead to a shut-down of the body's natural production of testosterone, resulting in impotence. Inappropriate use of other anabolic steroids can also cause impotence.

Neuropathy. A form of neuropathy called autonomic neuropathy causes a number of serious symptoms in some HIV+ people, including impotence in some men and possibly sexual arousal disorder in some women (as well as digestive dysfunction, bladder problems, and orthostatic hypotension). Because autonomic neuropathy is more common than is generally recognized, it may be contributing to sexual dysfunction in far more HIV+ people than has been reported to date.

Researchers have found that HIV-positive men with neuropathy (whether asymptomatic or symptomatic) have nerve conduction problems that may explain their impotence. Normally, nerve signals propagate in pulses along nerves at a certain rate. Researchers have found that this rate is diminished in the dorsal (back) nerve of the penis in HIV+ people with neuropathy. In contrast, the penile brachial index that measures blood pressure appears to be unimpaired. This indicates that the problem lies in the nerves, not in the blood supply to the penis. [For more information, see *Neuropathy*.]

Medications. Many different medications can cause sexual problems. Included on the list of drugs that may be problematic are protease inhibitors, as well as a very long list of other medications. In a recent study of 254 HIV-positive men, the rate of sexual problems (erectile dysfunction and/or loss of libido) was shown to be increased during any protease inhibitor therapy, with the rate most elevated in those using ritonavir, followed by indinavir, nelfinavir, and saquinavir. There was no apparent association of sexual dysfunction with the use of NNRTIs (non-nucleoside reverse transcriptase inhibitors) or NRTIs (nucleoside analogue reverse transcriptase inhibitors or nukes).

There are many other drugs that are known to have possible sexual side effects. In a compilation by *Consumer Reports On Health* (March 2002), common drugs that may cause sexual dysfunction were listed as the following (note that this list does *not* include sexual dysfunction that may be caused by interactions between drugs):

Drugs that may cause decreased sexual desire:

- **Anti-anxiety drugs:** alprazolam (Xanax) and diazepam (Valium)
- **Anticonvulsants:** carbamazepine (Tegretol), phenytoin (Dilantin), and primidone (Myidone, Mysoline)
- **Antidepressants:** amitriptyline (Elavil), amoxapine (Asendin), clomipramine (Anafranil), desipramine (Norpramin), fluoxetine (Prozac), imipramine (Norfranil, Tofranil), phenelzine (Nardil), sertraline (Zoloft), venlafaxine (Effexor)
- **Antihypertensives (blood pressure meds):** atenolol (Tenormin), chlorthalidone (Hygroton, Thalitone), clonidine (Catapres), hydrochlorothiazide (Esidrix, HydroDIURIL), labetalol (Normodyne, Trandate), methyldopa (Aldomet), metoprolol (Lopressor), propranolol (Inderal), spironolactone (Aldactone)
- **Enlarged-prostate drug:** finasteride (Proscar)
- **Hair loss (male pattern baldness) drug:** finasteride (Propecia)
- **Heartburn drugs:** cimetidine (Tagamet, Tagamet HB), famotidine (Pepcid, Pepcid AC), nizatidine (Axid, Axid AR), ranitidine (Zantac, Zantac 75)
- **Heart failure drug:** amiodarone (Cordarone)

Drugs that may cause erectile dysfunction or vaginal dryness:

- **Anticonvulsants:** carbamazepine (Tegretol), phenytoin (Dilantin), and primidone (Myidone, Mysoline)
- **Antidepressants:** amitriptyline (Elavil), amoxapine (Asendin), clomipramine (Anafranil), desipramine (Norpramin), fluoxetine (Prozac), imipramine (Norfranil, Tofranil), paroxetine (Paxil), phenelzine (Nardil), sertraline (Zoloft), venlafaxine (Effexor)
- **Antihypertensives (blood pressure meds):** atenolol (Tenormin), chlorthalidone (Hygroton, Thalitone), clonidine (Catapres), hydrochlorothiazide (Esidrix, HydroDIURIL), labetalol (Normodyne, Trandate), methyldopa (Aldomet), metoprolol (Lopressor), propranolol (Inderal), spironolactone (Aldactone)
- **Enlarged-prostate drug:** finasteride (Proscar)
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- **Heartburn drugs:** cimetidine (Tagamet, Tagamet HB), famotidine (Pepcid, Pepcid AC), nizatidine (Axid, Axid AR), ranitidine (Zantac, Zantac 75)
- **Heart failure drug:** amiodarone (Cordarone)
- **Muscle relaxant:** baclofen (Lioresal)

Drugs that may cause difficulty reaching orgasm:

- **Antianxiety drugs:** alprazolam (Xanax) and diazepam (Valium)
- **Antidepressants:** amoxapine (Asendin), clomipramine (Anafranil), fluoxetine (Prozac), imipramine (Norfranil, Tofranil), paroxetine (Paxil), phenelzine (Nardil), sertraline (Zoloft), trazodone (Desyrel), venlafaxine (Effexor)
- **Antihypertensives (blood pressure meds):** clonidine (Catapres), methyldopa (Aldomet)
- **Muscle relaxant:** baclofen (Lioresal)

Drugs that may cause ejaculation problems

- **Antianxiety drugs:** alprazolam (Xanax) and diazepam (Valium)
- **Antidepressants:** amitriptyline (Elavil), amoxapine (Asendin), clomipramine (Anafranil), desipramine (Norpramin), fluoxetine (Prozac), imipramine (Norfranil, Tofranil), paroxetine (Paxil), phenelzine (Nardil), sertraline (Zoloft), trazodone (Desyrel), venlafaxine (Effexor)
- **Antihypertensives (blood pressure meds):** clonidine (Catapres), labetalol (Normodyne, Trandate), methyldopa (Aldomet)
- **Muscle relaxant:** baclofen (Lioresal)

Drugs that may cause prolonged painful erections

- **Anticonvulsant:** phenytoin (Dilantin)
- **Antidepressant:** trazodone (Desyrel)
- **Antihypertensive (blood pressure med):** labetalol (Normodyne, Trandate)

And these were only the *common* drugs. Of these drugs, antidepressants may be the most likely to be causing problems in many HIV+ people. In one study, 37 percent of men taking an SSRI (selective serotonin reuptake inhibitor) antidepressant (drugs like Prozac) reported impotence, delay of orgasm, or inability to achieve orgasm. Many women have also reported loss of libido and difficulty in reaching or inability to reach orgasm. In addition to these meds, it is also known that some oral contraceptives may decrease a woman's sexual desire. Some common antihistamines may also decrease desire in both women and men.

Smoking, alcohol, and recreational drug use. Smoking interferes with proper blood circulation to the genitals in both men and women, and contributes to the development of heart disease, another risk factor for sexual dysfunction. Male smokers are 50 percent more likely to develop impotence than nonsmokers. The direct effect of smoking on the development of impotence (as opposed to the indirect effect it has by increasing cardiac disease) does appear to be reversible based on the findings of a study that showed that impotent male smokers who avoided smoking for 24 hours experienced a significant increase in blood flow to the penis. Alcohol can result in a decreased ability of a man to achieve an erection (although this is a temporary effect) and can cause vaginal tissues to dry in women.

Other diseases. Impotence is often secondary to other diseases such as heart disease (including high blood pressure and coronary artery disease) and diabetes. With heart disease there may be decreased blood flow to the genitals, resulting in impotence in men and sexual arousal disorder in women. With diabetes, there may be dysfunction of the autonomic nerves involved in proper sexual functioning. The result can be impotence in men and sexual arousal disorder in women. Impotence is sometimes the first sign of heart disease, diabetes, multiple sclerosis, and other serious illnesses. Anyone who develops sexual problems should report this to his or her physician and obtain a physical exam and appropriate testing to determine if any illness may be present and contributing to this problem.

Stress, depression, anger, and other psychological problems. Sexual problems are common results of negative emotional states and psychological problems. In addition to the fact that stress and other negative emotional states may simply keep people from being in the mood for sex, stress hormones are known to decrease sexual arousal in both men and women, resulting in decreased desire in both men and women, impotence in men, and decreased ability to achieve orgasm in women. Depression is known to cause loss of libido in both men and women, as well as impotence in men. Anger, probably because it causes the release of stress hormones that suppress sexual arousal, is another common contributor to sexual problems in both men and women. In the very large (1300 men) Massachusetts Male Aging Study, it was shown that in men assessed as being in the top ranking for anger (whether suppressed or expressed) there was moderate impotence in over a third (35 percent) and complete impotence in almost a fifth. Anger may also contribute to sexual problems indirectly since chronic anger has been shown to be linked to the development of heart disease which, in turn, can cause sexual dysfunction. In general, many different psychological problems may contribute to sexual dysfunction.

For some HIV+ people, the most difficult psychological problems may be issues related to HIV status. How you feel about yourself and your body and your sexuality may be greatly affected by an HIV diagnosis. In some cases, negative reactions from others who learn of your status may contribute to problems.

Lack of exercise. It appears that those who exercise less are more prone to sexual dysfunction, most likely because exercise improves blood flow to the genitals just as it does to the rest of the body. Those who don't exercise regularly won't get this benefit.

Bicycling. Although bicycling is an excellent exercise, it may in some cases contribute to impotence due to the pressure on the perineal area that is created by leaning forward on the standard hard, narrow bicycle seats, a practice that may put pressure on nerves that affect the genitals in both men and women, and that may reduce blood flow to the penis in men. One study of 500 bicyclists found impotence in four percent, compared to only one percent of non-bike riders, and found that men who spent more than 10 hours biking weekly were more likely to be impotent.

Surgery for prostate cancer. Too often, surgery for prostate cancer can lead to impotence. Luckily, there's much that can be done to prevent prostate cancer (see below).

Lack of sex. Yes, not having sex can lead to a reduced ability to have sex. Researchers have found that in men, frequent erections help to maintain penile muscles and blood vessels by regularly delivering more oxygen to the penis through the increase in blood flow. Without this, there may be insufficient oxygen delivery for penile health. Although less studied in women, it is also possible that lack of oxygen delivery to women's genitals may also decrease sexual functioning.

What are the possible treatments?

The first must for effective treatment of sexual dysfunction is identification of all the possible contributing causes, to the greatest extent possible, followed by elimination of as many of these as possible.

Key Therapies

Hormone replacement therapy. Since sexual dysfunction is a particularly common result of hormone deficiency in HIV+ people, it will be important to use the results of blood hormone tests in order to decide whether hormone replacement therapy is needed. The deficiency that most often contributes to loss of libido (in both men and women) and loss of sexual function (impotence in men and sexual arousal disorder in women) is a too low level of testosterone. If testing shows that testosterone is low, appropriate use of transdermal testosterone patches (in men) or gels or creams (in men or women) can return testosterone levels to normal and often work remarkably well to restore sex drive and functionality. Note that it is very important to use only transdermal (through-the-skin) testosterone replacement therapy in appropriate doses because too-high dosing (especially through injections) can ultimately lead to a shut-down of the body's natural production of testosterone, resulting in impotence. Make sure that your physician is using the best available information on dosing, and appropriate use of creams or gels in order to return your testosterone levels to normal without overdoing it in a way that could eventually cause problems. Testing testosterone levels both before and after initiation of hormone replacement therapy will also be very important to ensure good results. For women, testing of DHEA levels followed by hormone replacement therapy, where needed to restore levels to normal, may be a less side effect-prone way to restore testosterone to levels sufficient to improve sexual function.

In women, it is possible for female hormone deficiencies to also contribute to sexual problems. Inadequate levels of female hormones can contribute to sexual arousal disorder, as well as vaginal thinning and dryness which can cause difficulty with sexual intercourse, and reduce pleasure. It should always be remembered that such problems may develop in HIV-positive women at younger ages than is the norm. Many HIV-positive women reach the stages of perimenopause or menopause long before the ages that would normally be considered typical. Again, testing of hormone levels followed by discussion with your physician of what may be appropriate for replacement therapy will be very important. [For a full discussion of hormone replacement therapy in HIV+ people, see *NYBC's Self-Care Guide*.]

Nutraceuticals

Arginine. The amino acid arginine appears to promote sexual arousal in both men and women, and may also help counter erectile dysfunction in men. It appears that it may work similarly to Viagra and, thus, should not be taken with that drug or with nitroglycerine or other nitrate drugs. Whether it might also have interactions with antiretroviral medications is not known but should be considered a possibility until proven otherwise. In addition, arginine is a favorite food for herpes viruses and can promote the growth of herpes simplex, the cause of genital and oral herpes. For all these reasons, it may not be a safe choice for many HIV+ people.

Ashwagandha (*Withania somnifera*): The primary sexual tonic of the Ayurvedic system of medicine in India. It has been widely studied for its general tonic effects and its specific ability to enhance sperm production. It has primarily been used

to enhance physical performance and reduce the negative effects of stress and secondarily used for its anti-inflammatory effects. In at least one study, use of ashwagandha increased lean muscle mass and weight gain. Other studies have reported on its ability to enhance phagocytosis and increase macrophages and white blood cells.

Dosage: Equivalent to 3-6 g daily.

Caution: May potentiate the effects of barbiturates.

Damiana (*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 also specifically used as for anxiety and depression. It is ideally combined with wild oats.

Dosage: As a tea, steep 1 teaspoon of dried leaves over 1 cup boiled water for 10-15 minutes. Drink 1 cup 3 times daily. Tincture: 2-6 mL 3 times daily.

Epimedium (*Epimedium sagittatum*): Epimedium is one the primary Chinese tonics for increasing erectile performance in men. One mechanism of action is its ability to stimulate the release of nitric oxide which in turn maintains penile vasodilation. Epimedium also is traditionally used as a lung and kidney tonic in Chinese medicine, reduces fatigue, stimulates sperm production, and increases immune resistance. Animal studies suggest that it may enhance testosterone production. Epimedium is most properly used in with other tonics according to the traditional principles of Chinese medicine.

Dosage: Equivalent to 1-3 g daily as decoction or extract.

Ginkgo (*Ginkgo biloba*): Studies done in Europe indicate that the herb ginkgo biloba may help reverse impotence that is due to blood vessel problems. In research done at the University of California at San Francisco, it was shown that the herb may also reverse antidepressant-induced sexual dysfunction in both men and women. In fact, in a small UCSF trial, 84 percent of those experiencing sexual problems related to antidepressants who were given the herb saw improvements. Trial participants were given a starting dose of 69 mg twice daily. After four weeks, the dose was increased to 120 mg twice daily. It may take six to eight weeks of regular use of ginkgo biloba for positive benefits to be seen. The best products will be standardized to contain 24 percent flavone glycosides and 6 percent terpenes. Anyone on blood thinners like Coumadin should avoid ginkgo. Ginkgo is one of the most widely researched plant in the Western world, primarily for its effect in promoting mental acuity and slowing the progression of Alzheimer's disease. Numerous clinical studies report on its efficacy for use in both healthy and elderly, cognitively impaired individuals. A number of mechanisms of action have been postulated including its ability to increase cerebral blood flow and strong antioxidant activity. A number of studies suggest that it is equally effective as comparable approved conventional medications. Ginkgo is also used to promote peripheral blood flow, specifically for the treatment of intermittent claudication, increase blood flow to the genitalia, and to reestablish blood flow to the brain after a stroke.

Dosage: 120 mg 2 times daily of a solid extract characterized to 24% ginkgo flavone glycosides and 6% triterpenes.

Caution: Ginkgo elicits a blood thinning activity. Therefore, if using ginkgo and abnormal bleeding occurs, discontinue use and consult with a qualified health care professional. Those with bleeding disorders or using blood-thinning medications, should not use ginkgo unless otherwise directed by a qualified health care professional.

Chinese Salvia (*Salvia miltiorrhiza*): One of the primary Chinese botanicals for enhancing coronary circulation. It slows the heart rate, has cholesterol-lowering and blood-thinning properties, antioxidant activity, and reduces blood pressure. One mechanism of action is its ability to stimulate the release of nitric oxide from endothelial cells thus promoting vasorelaxation.

Dosage: 5 g daily.

Caution: Not to be used in conjunction with blood thinning medications or in those with bleeding disorders. May potentiate the effects of conventional cardiovascular medications.

Saw Palmetto (*Serenoa repens*): Saw palmetto is the primary botanical for the treatment of benign prostatic hyperplasia (BPH: prostate enlargement). Its primary action is to inhibit the conversion of testosterone to dihydrotestosterone which can cause the prostate to swell. Some studies have reported on its equal effectiveness as the approved BPH medication proscar but with a much better safety profile.

Dosage: Equivalent to 320 mg of an extract characterized on 90% fatty acids and sterols.

NYBC and Other Nutraceuticals for Sexual Health:

Arginine 1,000mg x 120	4/d (1B,2L,1D)
Ashwagandha 4.5% 450mg x 90	3-6/d (1-2B, 1-2L, 1-2D)

Damiana x 4 oz	60-180 drops x 3 day
Epimedium x 100 grams	1- 2 teaspoons per day in water
Ginkgo biloba 24% 60mg x 120	4/d (1B, 2L, 1D)
Prostate Support x 180	2/d, with meals.
Chinese Salvia x 100 grams	2 - 3 teaspoons per day in water
Saw Palmetto 160mg x 120	3-4/d (1B, 1-2L, 1D)

Other Possibilities

□ **Neuropathy treatment.** Because autonomic neuropathy may be contributing to sexual dysfunction in a significant percentage of HIV+ people, it will be very important to consider this possibility and the treatments that might help. [For a discussion of treatments for neuropathy, see *Neuropathy*.]

□ **Using and switching antiretrovirals.** Because antiretrovirals may help protect the body against the development of autonomic neuropathy and other nerve damage, a contributor to sexual dysfunction in some HIV+ people, the appropriate use of antiretrovirals may be a protective measure against development of sexual problems. However, the evidence that protease inhibitors may contribute to sexual dysfunction in some is another factor to consider for those choosing an antiretroviral regimen. For those already on HAART, substituting a different antiretroviral regimen for a PI-based combo might help counter sexual problems. There is one important caveat, however. Although it would seem appropriate to look for possible substitutions for any drug that appears likely to be contributing to sexual dysfunction, there may not always be available substitutes. This may be a particular problem for people who are very treatment experienced with HAART meds. They may have become resistant to many previously used drugs, and might well be on the only combo currently available to them.

Some people may also be intolerant of NNRTIs because of the symptoms that they cause, and thus find it difficult to put together an effective combo that does not include a protease inhibitor. In such cases if the current HAART combo is otherwise working well and providing the anti-HIV benefits needed, it may be necessary to stay with those meds, while attempting to address the sexual problems with the other approaches discussed here. Since so many things can contribute to sexual dysfunction, it may well be that solutions can be found that won't necessitate abandoning protease inhibitors.

□ **Switching antidepressants.** If it appears likely that your antidepressant may be contributing to sexual problems, discuss with your physician switching to either nefazodone (Serzone) or bupropion (Wellbutrin). Neither of these is likely to cause sexual side effects, and Wellbutrin has actually been shown to increase sexual desire and arousal in some people. (See below.)

□ **Switching other medications.** For anyone currently taking any of the many medications known to cause sexual problems, it will be important to consider whether this may be a factor in the creation of any sexual dysfunction. It would always be appropriate to discuss with your physician whether there might be possible substitutes for such meds.

□ **Quitting smoking and recreational drug use, and limiting alcohol.** For all the reasons discussed above, quitting smoking and eliminating recreational drug use may be extremely helpful as part of a total approach to improving sexual function. Limiting alcohol may also help. Get whatever help you need to try to eliminate these negatives from your life.

□ **Addressing heart disease and blood sugar problems.** Because heart disease and diabetes are major causes of sexual dysfunction, it is very important to do everything necessary to handle cardiac and blood sugar problems, preferably as early as possible in order to prevent serious disease. [For information on these, see *Cardiac Concerns* and *Blood Sugar Problems, Insulin Resistance, and Diabetes*.]

□ **Addressing psychological problems and decreasing stress and anger.** As discussed above, sexual problems are common results of negative emotional states and psychological problems. It will be very important to seek help for such problems. Working with a therapist and using all the self-help approaches that may contribute to solving these problems may be one of the most important things you can do to improve your sex life. If how you feel about yourself and your body and your sexuality have been affected by your HIV status, or you have experienced negative reactions from others who have learned of your status, it will be very important to discuss all this with a knowledgeable and HIV-friendly therapist. You may also find it very helpful to look for an HIV support group. Simply discussing such problems with others who have experienced and dealt with them can be immensely useful. [For more information, see *Depression, Anxiety, Nightmares, Insomnia, and Other Mental Problems* and *NYBC's Self-Care Guide*.]

□ **Exercising.** Since exercise may contribute to proper sexual function by increasing blood flow to the genitals, adding a solid exercise program to your life may be an important step toward long-term sexual health. Don't forget that bicycling may contribute to sexual problems due to the pressure on the perineal area that is created by leaning forward on the standard hard, narrow bicycle seats. The solution is to use a split seat that puts less pressure on this area, and perhaps to limit bicycling by alternating it with other forms of exercise. [For more information on exercise, see *NYBC's Self-Care Guide*.]

□ **Protecting the prostate.** Since surgery for prostate cancer can lead to impotence, doing everything possible to prevent prostate cancer is an important preventive step for men seeking to avoid sexual problems down the line. Studies have shown a greatly reduced incidence of prostate cancer in men who consume multiple servings of cooked tomato products weekly. The higher the intake of such products—including tomato-based pizza or pasta sauces, the lower the incidence of prostate cancer appears to be. It is thought that consuming tomatoes cooked in olive oil is the most protective since the combination of the lycopene (one of the carotenoids) in the tomatoes with the fatty acids in the olive oil improves the usefulness of these nutrients in the body. Sauté some chopped tomatoes in a small amount of olive oil and then season them with whatever herbs or spices are appropriate to the meal—add some cumin for a tasty Mexican side dish, some garlic and onions for an Italian evening, some curry powder for an Indian food accompaniment, and so on. Eating a whole-foods diet that is high in fiber and moderately low in fat has also been shown to be tied to a lower incidence of prostate cancer so make healthy eating part of your prostate protective life. [For more information on diet, see *NYBC's Self-Care Guide*.]

Since lycopene appears to be the key nutrient via which tomatoes are providing prostate protection, supplementation with lycopene, either separately or in a good carotenoid complex (one capsule, three times daily, with meals), may also be useful.

□ **Having sex.** Since, for the reasons discussed above, it appears that having sex helps you continue to be able to have sex, part of a long-term plan to prevent sexual problems is to try to maintain a normal, healthy sex life, to the greatest extent possible. If, in addition to all the other problems discussed here, there are relationship issues that prevent this, by all means talk to your partner and try to work out whatever may be affecting your sex life. If necessary, seek counseling for you and your significant other. And if you don't have a significant other, well we can't resist saying it: talk to the hand.

□ **Erection devices.** Where erectile dysfunction cannot be eliminated, there are both surgically implantable and external devices that can artificially create an erection when it is desired. If your physician is less educated on these, ask for a referral to a physician who can discuss these possibilities with you.

□ **Viagra (sildenafil).** The famous little blue pill does, indeed, help many men achieve erections by improving blood flow to the penis. Although not approved for use in women, there is research that indicates it may also help with sexual arousal disorder in women. The drug is usually taken an hour or so before planned sexual intercourse. It only works to increase blood flow, and does not affect sexual libido (desire). In the absence of desire, it will do nothing. In the large studies so far done in the general population, the drug has been remarkably effective, returning normal erectile function in two-thirds or more of those with impotence. It has been seen to work in cases that had both psychological and known physical causes such as diabetes.

It is very important to know that Viagra may interact with a number of drugs, including some antiretroviral medications and certain heart disease drugs. Viagra cannot be used by anyone taking the heart drug nitroglycerin or other nitrate medications since the combination can sharply decrease blood pressure in a way that can lead to shock or death. It is recommended that lower doses be used in anyone currently on an antiretroviral regimen that includes either a protease inhibitor or an NNRTI. The usual recommendation for such people is to limit Viagra use to one 25 mg pill in any 48-hour period.

There are a number of possible Viagra side effects, including headache, facial flushing, indigestion, and, relatively rarely, blurriness or a temporary bluish tinge to the vision. However, earlier fears that the drug might cause an increased incidence of heart attacks seem to have been put to rest by a very large study of 5,600 men in England which showed that those who took Viagra were no more likely to have a heart attack than those who didn't. Nonetheless, experts caution that for those who have not had sex for quite some time (a possibility for many Viagra takers since they will often be men who have been impotent for quite some time) it will be best to aim for starting slowly and having relaxed sex. Because the drug may affect blood pressure, experts also advise that for anyone with low blood pressure, it may be wise to test the drug's effects by starting out with a moderate dosage, no more than 50 milligrams, and then check blood pressure 40 minutes after the dose to see if it has dropped.

□ **Wellbutrin as a sex enhancing drug.** A number of well-done, placebo-controlled studies have shown convincing evidence that the antidepressant Wellbutrin not only does *not* cause sexual dysfunction but rather actually improves sexual functioning. In several trials, the use of Wellbutrin by men and women with sexual problems has resulted in improved sexual functioning. The drug's positive sexual effect was discovered when, prior to the drug's approval, a study was done to ascertain whether it might cause the same sort of negative sexual effects caused by most other antidepressants. In a placebo-controlled trial of sixty men and women who had been diagnosed with low libido and/or difficulty in achieving orgasm, three percent of those given the placebo reported improved sexual functioning compared to an amazing 63 percent of those given Wellbutrin. In recent years, a number of other studies have confirmed these findings. Researchers at the University of Alabama at Birmingham gave 107 people diagnosed with depression one of four antidepressants: Wellbutrin, or one of the SSRIs Prozac, Paxil, or Zoloft. Among the SSRI users, 73 percent reported sex-impairing side effects, while only 14 percent of those on Wellbutrin reported such problems, and an astonishing 77 percent said that Wellbutrin improved sexual function.

Two studies have shown that Wellbutrin may even work to reverse the sexual dysfunction created by other antidepressants. In the largest of these studies, researchers from the State University of New York at Buffalo told 47 depressed individuals experiencing sexual problems from SSRIs to take Wellbutrin an hour or two before sex. In 66 percent of those given the drug, the sexual problems were eliminated.

Most impressive are studies that gave Wellbutrin to non-depressed people and showed sexual benefits (thus proving that the sexual improvements were not just an indirect effect of improving depression). Researchers at Case Western Reserve University School of Medicine gave Wellbutrin to 66 women who had reported low or no sex drive for an average of six years. All of the study participants reported being dissatisfied with their level of sexual desire. All the women were given a placebo for six weeks, followed by Wellbutrin for eight weeks. By the end of the trial, extent of sexual arousal, number of sexual fantasies, and number of sexual encounters had all increased very significantly, and 40 percent reported being satisfied with their new level of sexual desire.

In another University of Alabama study, the sex lives of 30 people (10 men and 20 women) who had reported low sex drive, difficulty reaching orgasm, and sexual dissatisfaction and, among the men, premature ejaculation and erection problems were assessed at three different points: before any treatment was given, during three weeks on a placebo, and during three weeks of treatment with Wellbutrin. Based on the analysis of detailed diaries that trial participants were asked to keep, it was clear that the placebo had only a slight effect but treatment with Wellbutrin significantly improved sexual functioning. The women in the study reported improvement in ability to reach orgasm and in orgasmic pleasure (a finding that was highly statistically significant), and the men reported improvement in both the ability to raise and maintain an erection and the ability to experience orgasm and ejaculation. In fact, only premature ejaculation failed to improve in the Wellbutrin takers. One of the 20 women reported having the first orgasm of her life, and another woman reported her first multiple orgasms. Wellbutrin generally has only mild side effects, if any at all, but some people experience headaches, anxiety, irritability, hand tremors, and/or insomnia.

None of these studies were done with HIV+ people. Obviously, for those with sexual dysfunction related to HIV-specific things (low testosterone levels, use of protease inhibitors, autonomic neuropathy), it is not known whether the drug would have the same benefits as were seen in these studies. However, since the drug is considered relatively safe and is easily available (via a prescription for its antidepressant benefits), it might well be worth considering as a possible therapy for sexual dysfunction.

Melanotan. It's called the Barbie drug because it not only increases libido (sexual desire) by working on the sexual appetite center in the brain, it also gives you a tan (while helping protect against skin cancer) and helps you slim down by curbing appetite. It's a synthetic version of melanocyte stimulating hormone that is being used in a nasal form, and seems to cause little in the way of side effects. This drug is only in trials but appears to be remarkably effective for boosting sexual desire in both men and women. At the time of this writing (early 2007), it's still in clinical trials. A newer version, PT-141 from Palatin Technologies is scheduled to enter phase III studies.