

## SKIN PROBLEMS

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

There are many skin problems that can occur in HIV+ people. Some are minor, while others have the potential to be extremely serious and possibly even fatal. Included in the latter are the hypersensitivity reactions that sometimes occur to various drugs. These reactions can cause a serious skin rash that can develop into a life-threatening condition if the causative drug is not discontinued and treatment initiated. Other less serious rashes can occur in some people who are beginning certain antiretroviral drugs, but will commonly disappear in a few weeks.

**Seborrheic dermatitis** is quite common in HIV+ people. It can cause yellowish greasy scaling patches and reddened areas of the skin. It most often appears on the face, scalp, back, chest, and groin. The affected areas on the scalp, chest, and back are often itchy.

**Psoriasis** can also occur in some HIV+ people, creating patches of skin that are thick, red, and covered with silvery scales. Most often, the affected skin areas don't itch. These skin changes most commonly appear on the scalp, elbows, knees, arms, back, legs, and the area behind the ears. Psoriatic arthritis affects five to seven percent of those suffering from psoriasis, and seems to most commonly occur in those for whom infection has been the psoriasis trigger, as is probably often the case in HIV disease. It has been observed in a significant number of HIV+ people so when arthritic symptoms accompany these sorts of skin problems, it increases the likelihood that psoriasis is the problem.

**Cysts, boils, and dry, itchy, irritated skin, as well as itchy scalp with dandruff** are also relatively common in HIV+ people.

**Severely itchy skin** develops in some people. It can be so problematic that sleep will be interrupted and daytime activities will be compromised. In some cases, the itching will result in the affected person's scratching the skin to the point that it becomes raw and covered with scabs.

**Nail problems** also develop in some people, and are especially common in users of indinavir (Crixivan®). Toenails may become blackened, inflamed and/or ingrown and, in some cases, may split. These conditions can often be quite painful.

**Increased sensitivity to the sun** will develop in some HIV+ people. This can result in a bad sunburn with even minimal sun exposure, or may just appear as itchy, scaly patches on the skin.

**A heightened sensitivity to bug bites** may also develop in some people. This can result in much worse than usual skin reactions to the bites of fleas or mosquitos or other insects.

**Many serious infections and cancers** can also affect the skin of HIV+ people in various ways so aggressive diagnosis of any skin symptoms is a must so that these can be identified and properly treated.

Diagnosis requires a physical exam by an HIV-knowledgeable dermatologist who will do a careful visual exam of all affected skin and nail areas, and may scrape or biopsy the skin in order to have a laboratory run tests needed to diagnose infections or cancers.

### What are the Causes?

There are many possible causes of skin problems in HIV disease, and in many people, there may be more than one factor contributing to their development.

**Drug reactions.** A great many drugs can cause a skin rash but the most common skin rash causes in HIV+ people are the NNRTI antiretrovirals—nevirapine (Viramune), delavirdine (Rescriptor), and efavirenz (Sustiva)—and the nucleoside analogue abacavir (found solely in Ziagen® and combined with AZT and 3TC in Trizivir®). The protease inhibitor nelfinavir (Viracept), the nucleoside analogue ddC (Hivid®), and the PCP prophylactic TMP-SMX (Bactrim or Septra) are other possible causes.

Most often, these rashes will fade away after a few weeks on the drug, but in some cases, they can be the most obvious indication of a hypersensitivity (allergic) reaction that could potentially be fatal. Thus, it is absolutely urgent for anyone who develops a rash to report it to their physician immediately (or if s/he is not available, report to a hospital emergency room).

It is particularly urgent for those who have recently started any of the drugs listed above to pay close attention to their skin and immediately report any changes. When a causative drug is immediately discontinued and appropriate medical treatment for the hypersensitivity reaction is initiated quickly, the outcome is usually good. When this does not occur, the outcome could be death. Some of the most common signs of a hypersensitivity reaction include fever, and flu-like symptoms such as aches, pains, fatigue and headache. With abacavir, respiratory symptoms may also occur.

In most cases, hypersensitivity symptoms develop soon after starting a med. However, it is very important to know that anyone taking any drug which has the potential to cause a hypersensitivity reaction could develop symptoms well after the drug is initiated. This has been seen with abacavir and other drugs. The absolute requirement for anyone

taking such drugs is to listen carefully when the physician initially explains what symptoms might occur, and then always watch for the development of such symptoms and report them immediately even if they occur many months after the drug was first used.

**With an abacavir (found solely in Ziagen® and combined with AZT and 3TC in Trizivir®) hypersensitivity reaction,** estimated to develop in perhaps 4 to 5 percent of those who begin the drug, the four most common groups of symptoms are (1) fever, (2) rash, (3) gastrointestinal symptoms (nausea, vomiting, and/or diarrhea), and (4) weakness, fatigue, and headache. Less common symptoms include respiratory tract symptoms, including cough (usually a dry cough but sometimes producing phlegm), shortness-of-breath, and sore throat. Other symptoms that may occur include itching, muscle aches, chills, joint aches, body aches, swelling, abdominal pain or cramping, redness in the whites of the eyes (conjunctivitis, caused by inflammation of the inner surface of the eyelids), possibly with a discharge, mouth sores, loss of appetite, dizziness, and flu-like symptoms. Note that a runny or congested nose or wheezing are *not* symptoms associated with this reaction, a fact that is helpful in distinguishing this reaction from a common cold.

About half of those experiencing a hypersensitivity reaction will develop 3 or 4 of these symptoms, but perhaps one-fifth will only have a rash and fever, and some may only have one out of all these symptoms. In the vast majority of cases, hypersensitivity symptoms will develop during the first six weeks of therapy, but in at least one person the symptoms only appeared after almost a year of therapy.

In people who have had chest X rays during an abacavir reaction, it has usually been either normal or abnormal with diffuse infiltrates or a localized infiltrate. Abnormal laboratory tests during a hypersensitivity reaction may include mild liver enzyme elevations, mildly decreased lymphocytes, mildly decreased platelets, and a mild increase in the muscle enzyme CPK (creatine phosphokinase). As with symptoms, some, none, or all of these laboratory abnormalities may be present.

**With a nevirapine (Viramune) reaction,** the most common symptom is skin rash, previously estimated to occur in up to 17 percent of those who start the drug (although the new approach to dosing discussed below will decrease this risk), with a possibly somewhat higher risk of this seen in women. It is important to know that in a very small percentage of people taking the drug (estimated as perhaps half of one percent), the rash has become very serious, developing into the potentially fatal Stevens-Johnson syndrome. Any rash that begins after starting nevirapine should be reported to your physician immediately. The risk that a rash could be serious increases when the rash appears along with such other symptoms as a generally ill feeling, fever, muscle or joint aches, blisters, mouth sores, redness in the whites of the eyes (conjunctivitis, caused by inflammation of the inner surface of the eyelids), swelling of the face, and/or fatigue.

**With a delavirdine (Rescriptor) reaction,** the most common symptom is skin rash. Perhaps one in four people who begin the drug will develop a rash, but most of these will be only a mild to moderate rash that will fade over time and will not require the drug to be discontinued. However, any rash must be reported to your physician immediately since in a small number of people it can worsen and become very serious and potentially fatal. There is a higher risk of the rash being serious if it is accompanied by such symptoms as a generally ill feeling, fever, muscle or joint aches, blisters, mouth sores, redness in the whites of the eyes (conjunctivitis, caused by inflammation of the inner surface of the eyelids), swelling of the face, and/or fatigue.

**With an efavirenz (Sustiva) reaction,** rash is also very common, but will usually go away without any change in treatment. However, in a small number of people, the rash may be serious, and should always be reported to your physician immediately.

**With a nelfinavir (Viracept) reaction,** a rash may occur but is usually only mild and will not require drug discontinuation. However, the risk that an allergic reaction is occurring that could be life-threatening is much higher if there are also such symptoms as difficulty breathing, a feeling of closing of your throat, hives, or swelling of your lips, tongue, or face. With any such symptoms it is urgent that your physician be contacted immediately and that you report to a hospital emergency room.

**With a reaction to TMP-SMX (Bactrim or Septra),** the most common symptoms are rash and fever. It appears that from one-fourth to one-half of HIV+ people are allergic to the sulfur in the sulfamethoxazole component of this drug.

□ **Hypersensitivity to the sun.** Increased sensitivity to sunlight can develop as either a reaction to drugs (including TMP-SMX, other antibiotics, and many other drugs) or simply as part of HIV disease. The result may be serious sunburns with even minor sun exposure, or itchy, scaly patches on the skin that develop with sun exposure. Both UVB and UVA light can cause this.

□ **Infections and cancers.** There are many infections and cancers that may cause skin problems in some HIV+ people, including bacillary angiomatosis, molluscum, Kaposi's sarcoma, herpes simplex, basal cell carcinoma, and many different fungal infections. Fungal infections of the skin and nails are particularly common and can cause very unpleasant itching, along with blackening of the nails in some cases. One fungal possibility that can cause really severe constant itching is eosinophilic folliculitis, a condition that causes inflammation around the hair follicles. Another too frequently

undiagnosed infection that can cause very itchy skin is scabies infection, caused by mites. Chronic itching, especially itching that gets worse at night, may indicate this infection.

□ **Nutrient deficiencies.** Various studies have shown that many HIV+ people have deficiencies in a number of different nutrients that are required for skin health. Included are zinc, vitamin E, essential fatty acids, B vitamins, vitamin A, and others. The result of deficiencies in these nutrients can be dry, itchy skin, including seborrheic dermatitis, as well as increased vulnerability to skin infections and other problems. It appears that nutrient deficiencies are a major factor in the high incidence of skin problems in HIV disease.

□ **Poor digestion of fats.** Because of the fat maldigestion and malabsorption that is common in HIV disease, many people may not be getting a sufficient intake of fatty acids for skin health even if they are consuming a reasonable amount of fat.

□ **Psoriasis causes.** Psoriasis is thought to result from a metabolic disturbance that is usually triggered by stress, infections, use of penicillin or other drugs, physical or emotional trauma, a faulty diet, alcohol ingestion, smoking, a bad diet, or some combination of these. Stress is a particularly common trigger of psoriasis episodes.

□ **Inadequate fluid intake.** Drinking too little water and other healthful fluids can contribute to dry, itchy skin.

□ **Environmental causes of skin problems.** Inadequate moisture in the air in your living quarters and workplace can contribute to dry, itchy skin, as can excessive exposure to cold, wind, or sun.

□ **Antibacterial soaps and drying chemicals.** Some antibacterial soaps contain harsh detergents which can lead to skin inflammation. The skin may become red and dry, and may peel. The chemicals in these soaps strip away fatty acids and the resulting dryness can lead to cracks in the skin which can become infected. Recent research indicates that such soaps may kill off more of the friendly bacteria found on the surface of your skin while sparing more dangerous bacteria like *E. coli*, heightening the risk that cracked skin could lead to more serious infections. Drying ingredients that may be found in some soaps, shampoos, cleansers, and even some lotions include alcohol, glycerine, sodium laurel sulfate, and propylene glycol.

### **What are the possible treatments?**

The absolute first requirement for effective treatment of skin problems is identification of the likely cause(s). With many of the possible causes, the use of nutrients, combined where necessary with appropriate drug treatments, will often improve or eliminate the problems. With minor drug-caused skin rashes, time may take care of the problem, although only a physician can determine whether the problem is truly minor or not. In cases of hypersensitivity reactions to drugs, immediate medical care will be required.

### **Key Therapies**

**Countering drug hypersensitivity (allergic) reactions.** If a drug hypersensitivity reaction has been diagnosed as the source of a skin rash, physicians will order immediate cessation of the drug, along with supportive medical care to suppress the sensitivity reaction and reduce the chances that it will continue to worsen, while supporting life processes. In some cases, in order to prevent deadly complications, multiple supportive measures may be used, as needed, including hospitalization, oxygen, intravenous fluids, intravenous medications to maintain normal blood pressure, intravenous antihistamines, intravenous corticosteroids (prednisolone, prednisone, Solumedrol, or others), intravenous sedatives, intubation for breathing problems (in which a tube is inserted through the nose or mouth into the windpipe and a breathing machine forces air), catheterization (in which a tube is inserted into the bladder through the penis or female urethra to monitor urine production and flow), and others.

Some drugs can be tried again (re-challenged) after a rash, usually with a protocol that will begin with lower doses, and then gradually increase the dose to full strength. However, this is not the case with abacavir (found solely in Ziagen® and combined with AZT and 3TC in Trizivir®) which must never again be used by anyone who has ever developed symptoms that might indicate a hypersensitivity reaction.

**Preventing or countering skin rashes when starting NNRTIs.** As discussed above, the most common side effect seen when NNRTIs are first started is skin rash. When the rash is determined to *not* be serious, the drug can usually be continued and the rash will fade over time. It is sometimes helpful to treat the rash with a mild corticosteroid cream for a short period of time. However, long-term use of such creams is not advisable since a percentage of the corticosteroid is absorbed, and such drugs are immunosuppressive.

A protocol in which the use of a drug begins with lower doses, and increases those doses gradually may help prevent these skin rashes. For example, with nevirapine, the approach used by most physicians is a two-step process. For the first 14 days of treatment, the dose is one 200 mg tablet taken once daily. Two weeks after beginning this treatment, the dose of nevirapine is increased to one 200 mg tablet taken twice daily.

**Preventing skin rash and other allergic reactions to TMP-SMX (Bactrim or Septra).** In people being treated for active *Pneumocystis carinii* pneumonia (PCP), an allergic reaction to TMP-SMX is often so severe that the drug will have to be discontinued. However, for those wanting to use TMP-SMX as a prophylactic (preventive) therapy against PCP, if the initial use shows that there is a tendency toward hypersensitivity, a process called desensitization is often successful in helping the body adjust to the drug. In this process, tiny doses of the drug are given initially, using the pediatric liquid formula, and then the doses are gradually increased over a few days or weeks until the full dose is reached.

**Treating skin infections or cancers.** If any infections or cancers that affect the skin are diagnosed, it is crucial for them to be treated aggressively. You may need to treat a bacterial infection with an appropriate antibiotic, a fungal infection with the appropriate antifungal (both internally and externally, usually), and so on through the complete list of infections that may cause skin problems. Some infections, particularly serious bacterial ones that cause abscesses, may require intravenous therapy along with cleaning out and draining the affected areas. It is imperative to always get a thorough assessment and diagnosis from a dermatologist, preferably one who specializes in HIV-related problems. Then be sure to follow through with proper treatment.

In some cases, the most effective treatment may be HAART itself since immune suppression can result in a vulnerability to skin infections that may be reversed with an effective antiretroviral combination. This would be another factor to consider for those not yet on HAART when antiretroviral therapy would be considered otherwise appropriate.

Regardless of the skin problem, supporting skin health with the nutrients discussed below may help. This is true even when there are infectious causes of problems since the nutrients provide the building blocks for an effective immune response, as well as those needed to repair the skin and then maintain its health.

Skin infections may sometimes seem to be a relatively minor problem but, as with all other infections, they are stimulating an immune response that in turn activates HIV, and should never be ignored or allowed to drag on untreated since the result could be an increased viral load. In addition, some skin problems which can be easily treated if properly diagnosed in early stages might actually be fatal if left untreated.

Fungal infections of the skin and nails are particularly common and can cause very unpleasant itching, along with blackening of the nails in some cases. Itraconazole (Sporanox) appears to get into the skin better than the other antifungal drugs and, thus, is the most commonly prescribed systemic drug for fungal skin problems. Topical agents are also usually needed. In addition to the standard over-the-counter and prescription antifungal creams, tea tree oil seems to help many with recalcitrant fungal infections in the skin and nails. It can be applied directly to the affected area or diluted in water and used as a soak for the feet or hands. There have been many anecdotal reports of the effectiveness of tea tree oil for resolving fungal problems, even when standard remedies have not worked.

One fungal possibility that can cause really severe itching is eosinophilic folliculitis, a condition that causes inflammation around the hair follicles. The most effective therapy is usually itraconazole (200 mg, twice per day, usually continued for at least 30 days). It has eliminated the problem, at least temporarily, in a substantial number of people. However, based on the research to date, it appears that it may be necessary to repeat the drug therapy for a month at a time every three to four months, and that it may not work in all people. Again, the use of tea tree oil has been reported to help some people with this problem, either used alone or in conjunction with itraconazole. Rubbing the tea tree oil into the skin two or three times daily for several weeks seems most likely to help.

Another possibility is the use of isotretinoin, a vitamin A derivative that is used as an anti-acne treatment. In one study, all seven people given isotretinoin achieved elimination of the symptoms of eosinophilic folliculitis. Four people had complete remission after only one course of treatment. The other three had to receive up to three follow-up treatments after relapses. With each follow-up, symptoms were quickly eliminated. Following completion of therapy, all seven people then remained free of the condition for the remainder of the study (up to nine months).

Long-term use of antihistamines such as astemizole (Hismanal) or terfenadine (Seldane) has also been reported to be helpful in some people with eosinophilic folliculitis. [If you take either Seldane or Hismanal, make sure you don't drink grapefruit juice since it can increase the concentration of these antihistamines in the bloodstream, potentially causing serious side effects such as heart palpitations, dizziness, fainting, chest discomfort, or shortness of breath. And always check with your physician before taking any antihistamine to see if there are possible interactions between any drugs you are taking and the antihistamine.] Other treatments sometimes used for eosinophilic folliculitis such as ultraviolet light (which may stimulate HIV) and cortisone (which is immunosuppressive) may be effective, but obviously less desirable because of these drawbacks.

One potential cause of itchy skin that seems to be missed frequently is scabies infection, caused by mites. With chronic itching that gets worse at night this is a definite possibility. In non-HIV+ people diagnosed with scabies, the usual treatment is with the application of scabicide lotions, usually lindane 1% lotion or, second in line for those who fail lindane treatment, permethrin (Elimite) 5% lotion. However, those considering use of lindane should be aware that there have been reports of a possibly greater risk of seizures related to the drug's use in HIV+ people. For this reason, some

physicians recommend against lindane's use in those living with HIV. If it is prescribed, it would be important to ensure that someone is present when the drug is applied. Whichever treatment is chosen is usually repeated twice, one week apart. Don't forget that scabies is passed on through "close personal contact" so avoid this until the infection is eliminated.

**Skin supportive nutrients.** The most important nutrients for improving skin health are zinc, vitamin A, vitamin B-6, vitamin E, selenium, and essential fatty acids. Some people may also need to add biotin, especially if they show symptoms related to biotin deficiency, including dry, flaky skin, rashes around the mouth and nose, and hair loss.

Because one or more of these nutrients may be deficient in many HIV+ people, it appears that the deficiencies may create a susceptibility to skin problems that show up in different people in different ways. Restoring the deficient nutrients fundamentally boosts the skin's health and, thus, its resistance to infections and other problems. As one example of this, Italian researchers have reported finding that levels of vitamin E and essential fatty acids are reduced in HIV+ people and that supplementation with these, along with other antioxidants, has resulted in significant improvement in seborrheic dermatitis, probably the most common skin problem seen with this disease.

There are countless anecdotal reports from HIV+ people who have seen substantial improvement in skin conditions when a combination of skin supportive nutrients is used. Even when there is an infectious component to the skin problem, it appears that combining appropriate drug treatments with these nutrients will help to better eliminate skin problems, and prevent their recurrence. With any skin problem, giving the body the nutrients required for repairing skin and maintaining its health can boost the healing process.

Appropriate doses of skin supportive nutrients might include the following:

- Zinc, 50 to 75 mg taken with breakfast;
- Copper sebacate, 4 to 5 mg, taken with dinner to keep your zinc/copper ratio in balance.
- Vitamin A, 5,000 to 10,000 IU taken daily with meals (a water-soluble form is best due to the fat malabsorption problems that affect so many HIV+ people; any woman who might be pregnant should limit vitamin A consumption to no more than 5,000 IU daily);
- Vitamin B-6, 25 mg, taken three times daily with meals; it is best to either obtain this from a potent multivitamin or a B complex; taking single B vitamins without the rest of the B complex can throw some of them out of balance in your body.
- Vitamin E, 800 to 1,200 IU taken daily with meals (preferably a mixture of a water-soluble form, 400 to 600 IU, and an oil form, 400 to 600 IU);
- Selenium, 200 mcg taken twice daily with meals;
- Flaxseed oil, 2000 mg (2 capsules, 1,000 mg each), taken three times daily; and gamma-linolenic acid (GLA), 240 mg (from borage oil or evening primrose oil) taken twice daily with meals;
- Biotin taken with meals in dosages of 7,500 mcg to 15,000 mcg daily may also be needed by some people, especially those with bug bite hypersensitivity or the symptoms listed above that could relate to biotin deficiency.

**NYBC Nutraceuticals for Healthy Skin:**

B-50 Complex x 250	1/d (1L)
Biotin 5000mcg x 60	2-3/d (0-1B, 1L, 1D)
Borage Oil 240mg GLA x 120	2/d (1L, 1D)
Vitamin E 400IU x 250	1-2/d (0-1B, 1D)
Flaxseed Oil 1,000mg x 200	6/d (2B, 2L, 2D)
OptiSel (selenium) 200mcg x 180	1-2/d (0-1B, 1D)
Opti-Zinc 30mg x 100	2/d (1L, 1D)

**Natural anti-inflammatories.** Since HIV-caused inflammation, and increased production of unstable free-radicals, play a role in causing or contributing to most of the symptoms described in this guide, the idea of counteracting that inflammation is appealing. Rather than using anti-inflammatory drugs, which are potentially toxic and may interfere with the natural benefits of the inflammatory response (since the inflammation is part of the immune system's way of countering infections), it is probably preferable to use foods that have natural anti-inflammatory qualities.

Because such foods have been used for thousands of years with no apparent adverse effects on immune responses, it seems likely that long-term consumption of them would be considerably safer than long-term use of drugs. Their anti-inflammatory effects are more subtle but might still provide substantial benefit. Naturally anti-inflammatory substances are found in the following foods and seasonings:

- garlic, ginger, turmeric

- bioflavonoid- and antioxidant-rich fruits and vegetables
- omega-3 fatty acid-rich foods such as fatty fish (e.g. salmon, mackerel, sardines, tuna, cod and halibut), flaxseed, and walnuts.
- chlorophyll-containing foods such as wheat grass juice and blue-green algae.

There are also specific nutritional supplements and herbs that counteract excess inflammation and may help to lower levels of tumor necrosis factor. These include N-acetyl-cysteine (NAC), carnitine, nettle leaf extract, grape seed extract and bilberry extract, as well as a broad spectrum of all the other important antioxidants (vitamin E, vitamin C, bioflavonoid complex, carotenoid complex, selenium, coenzyme Q-10, and alpha-lipoic acid). For more detailed information on the above foods and supplements, please see *NYBC's Core Nutrient Protocols* and *Counteracting Inflammation and Tumor Necrosis Factor* in the *Introduction*, as well as the description of *Health-Enhancing Nutrients* in *NYBC's Self-Care Guide*.

**Psoriasis treatments.** Since psoriasis is thought to be triggered by stress, infections, use of penicillin or other drugs, physical or emotional trauma, a faulty diet, alcohol ingestion, smoking, a bad diet, or some combination of these, eliminating as many of these as possible is obviously important. Avoiding alcohol, cigarettes, sunburn, and stress while improving the diet are all things that you can do to help avoid psoriasis flare-ups. Stress reduction approaches may be particularly helpful. [For information on these, see *NYBC's Self-Care Guide*.]

The nutrients suggested above for other skin problems would also be appropriate for psoriasis, with the single exception of zinc. Since zinc can speed up cell division which is already too fast in psoriatic skin, it is best to hold off on zinc supplementation during the period when you are trying to eliminate the psoriasis. It has been estimated that in areas of psoriasis, new skin is produced ten times faster than the old skin is shed so you don't want to worsen it. The small amount of zinc found in most multiple vitamin/mineral supplements would probably not be problematic, but additional dosing with zinc should be avoided.

In addition to these other approaches, many physicians recommend the use of corticosteroid creams for psoriasis. However, there is some absorption through the skin of the corticosteroid drugs in these creams. Since they are immunosuppressive, any long-term use of such creams is not considered advisable.

The most useful medicinal creams and ointments for psoriasis are probably tar (Estar and Psorigel), tazarotene (Tazorac), and calcipotriene (Dovonex). Dovonex is a vitamin D-3 analog that seems to be particularly useful. It has long been known that psoriasis tends to improve or disappear when people go to the beach or participate in other outdoor activities. It now appears that the increase in vitamin D production in the skin is the chief factor responsible for the improvement. Since skin exposure to sunlight is thought to increase HIV replication, the better approach for someone living with HIV is a combination of topical and supplemental use of vitamin D. Dovonex (calcipotriene ointment, 0.0005%), available by prescription, often leads to improvement after two weeks of use, with reductions in redness, flaking, and scaling. Taking a vitamin D supplement may also help. An appropriate dose might be 800 IU daily.

It has been observed that in some people, the use of antiretrovirals seems to improve severe psoriasis so this would be another consideration for those not yet on HAART who are making decisions about beginning antiretroviral drugs.

It has also been observed that fungal overgrowth may play a role in psoriasis problems. Physicians have noticed that patients given antifungals for yeast overgrowth often get the side benefit of elimination of psoriasis. A course of antifungal therapy might be worth a try if all the other suggestions fail to fully resolve the problem. The best antifungal for skin problems is itraconazole (Sporanox) because it gets into the skin better than the other antifungal drugs.

A standard recommendation for non-HIV+ people with severe psoriasis is ultraviolet light, either UVB alone or UVA plus drugs called psoralens (a combination known as PUVA). This treatment does often help keep psoriasis in remission but because of concerns about the possible activation of HIV by sunlight, this therapy is probably best avoided, if possible. Another recommendation for non-HIV+ people who have psoriasis that is very severe is the use of drugs such as methotrexate (Rheumatrex) or acitretin (Soriatane) but these drugs have severe side effects, including immunosuppression, and are also best avoided by HIV+ people, if possible.

**Seborrheic dermatitis treatments.** With seborrheic dermatitis, the skin supportive nutrients discussed above are often all that is needed for improvement. Long-term maintenance with the nutrients will often prevent recurrences. However, in some cases, antifungal creams (such as clotrimazole, 1%, or ketoconazole, 2%) seem to provide additional benefit that may help clear up problems more quickly. Corticosteroid creams (hydrocortisone, 1%-2.5 %) are often effective for areas on the face, back, chest, or groin. However, always remember that there is some absorption through the skin of the corticosteroids in these creams. Since they are immunosuppressive, any long-term use of such creams is not considered advisable. The shampoos suggested below can help with the scalp problems of seborrheic dermatitis.

**Zinc cream, topical vitamin E, and other moisturizers and soothing agents.** While taking nutrient supplements orally, you may also find it helpful to use a zinc cream such as Desitin (sold in supermarkets as a diaper rash cream for babies), applied externally to rashes or areas of dry skin or other problem areas just before you go to bed. It's a thick, gooey, white cream so you'll only want to use it overnight and, because with repeated use it may block skin pores, it should probably not be used on the face or for lengthy periods of time without taking a break from it. Note that anyone with psoriasis should not use this cream since, as discussed above, the absorption of zinc through the skin could actually worsen the problem. The same caution applies to any other zinc-containing lotion or cream so always read labels.

Breaking open a vitamin E capsule, along with a borage oil capsule and/or a flaxseed oil capsule, and applying the oils to your skin before bedtime may also be helpful. Using a moisturizing lotion with them will help them be absorbed. These can be applied to your face, and any other location where skin is dry.

Moisturizing lotions and creams are very helpful for those with dry skin, often helping to reduce dryness and help eliminate flaking and itching. There are countless such products available but it will generally be best to pick hypoallergenic, fragrance-free brands that contain a potent mix of moisturizers. One of the best of these is Eucerin Original Moisturizing Creme, a top pick of many dermatologists. There are many anecdotal reports from those who had long suffered from itchy dry skin finding relief with Eucerin. Because it is a thick cream that will not soak in quickly, most people prefer to slather it on at bedtime. For daytime use, a product that quickly disappears into the skin and provides UVA and UVB protection may be best. An excellent one is Oil of Olay Complete UV Protective Moisture Lotion (fragrance free).

Last but not least, for those with irritating rashes or bug bites, the old-fashioned remedy called calamine lotion can be soothing. It can help to decrease itching and lessen the chance that too much scratching will worsen the problem.

**Scalp problem solutions.** For scalp problems, including itching, using a dandruff shampoo that contains zinc or selenium may significantly help, even if there is no obvious dandruff. The best approach may be to alternate the use of a shampoo that contains selenium (such as Selsun Blue) with one that contains zinc (such as Head and Shoulders, Danex, or Zincon). Three to eight weeks of this combined approach is usually enough to significantly improve scalp problems, often eliminating itchiness, flaking (dandruff), dryness, and various types of scalp outbreaks and rashes. If these shampoos don't eliminate the problem, there may be a fungal component and using Nizoral (ketoconazole) shampoo will usually help.

**Solutions for cracked lips.** Cracked lips are a painful annoyance that seem to be caused most often by indinavir (Crixivan®). There have been anecdotal reports of many possible solutions including: vitamin E rubbed on the lips (break open a capsule), Diprolene (a prescription cream), Micatin cream (an over-the-counter antifungal), Desitin (diaper-rash cream), bag balm (available in pharmacies) and a plentiful intake of water. Because the variations in the way people absorb drugs can affect indinavir levels, some people end up with too high doses which may contribute to this lip problem. Therapeutic drug monitoring with expert interpretation can be done to help establish whether a possible change in the dose or the way the drug is given could help.

Since lip problems can have multiple possible causes, be careful to avoid common environmental and other causes that could contribute to chapped and cracked lips. In addition to the things discussed below under *Avoiding drying chemicals and soaps* and *Avoiding environmental causes of dry skin*, it is best to avoid anything that contains cinnamon. This common spice can cause painful chapping and cracking of the lips, often most noticeable at the corners of the mouth, in some people, sometimes accompanied by red, tender gums, irritated taste buds, a burning sensation in the mouth, and/or mouth ulcers.

Cinnamon is often found in products such as toothpaste, mouthwash, breath fresheners, and fluoride rinses. In a University of Louisville study in non-HIV+ people, more than half of those who had reported painful mouth symptoms were discovered to be frequent users or consumers of cinnamon-loaded products like hard candies or gums. By eliminating their contact with cinnamon, these people eliminated their mouth problems within a few weeks. Common sources of cinnamon include the above-mentioned dental products, as well as candy, gum, many sweet snacks and baked goods, breakfast cereals such as oatmeal as well as many cold cereals, flavored lipsticks or lip sun screens, flavored teas, and cappuccino or flavored coffees. If you're experiencing any of the above list of mouth problems, try scrupulously avoiding all contact with cinnamon for a few weeks to see if there is improvement. If there is, avoid all cinnamon-containing products from then on.

**Solutions for ingrown toenails.** Inflamed and ingrown toenails can be extremely painful problems that occur in some HIV+ people. Most commonly, this has been reported by those taking indinavir (Crixivan®). In some cases, this problem will only affect one toenail, but in others, there may be several toenails causing problems at once. In some cases, these can be so painful that surgical removal of the toenail is required. Some people have found that regular pedicures help by keeping the nails cut back and shaped in a way that lessens the likelihood that they will become ingrown. The

general advice is to carefully clip the toenails, and repeat this as often as is necessary to prevent them from ever growing out enough to dig into the toe. This doesn't always work but it does seem to help some people. For others, the only long-term solution has been discontinuation of indinavir.

However, a newer test may help keep people on the drug without its causing such side effects. Because the variations in the way people absorb drugs can affect indinavir levels, some people end up with too high doses which may contribute to this problem. Therapeutic drug monitoring with expert interpretation can be done to help establish whether a possible change in the dose or the way the drug is given could help.

It's very important to report any toenail changes to your physician quickly. Like so many other conditions, the earlier an ingrown toenail is diagnosed, the easier it is to treat.

**Improving fat digestion.** By doing everything possible to improve fat digestion and absorption, the body's supply of the fatty acids needed for skin health will be greatly increased. [For more information on this, see the discussion of ways to improve fat digestion and absorption in *Diarrhea*.]

**Improving liver and kidney detoxification.** Often, skin problems are the direct result of faulty liver and/or kidney detoxification. Please refer to *The Detoxification* section in the *NYBC Self Care Guide* as well as the Liver section of this document for possible ways to improve the livers' detoxification ability.

**Avoiding drying chemicals and soaps.** For people whose skin seems sensitive to antibacterial soaps, it will be best to avoid them completely. For others, leading dermatologists recommend avoiding using antibacterial cleansers more than once or twice daily. It's also important to read labels on soaps, shampoos, cleansers, and lotions and avoid drying ingredients like alcohol, glycerine, sodium laurel sulfate, and propylene glycol. Stick with mild, hypoallergenic soaps and shampoos. One of the best cleansing agents for dry, itchy skin is a colloidal oatmeal formula such as Aveeno.

**Avoiding environmental and external causes of skin problems.** Improving the environment that surrounds your skin, and avoiding those things that can adversely affect it can greatly help in the prevention or healing of skin problems. Humidify your house when the air is dry (but be sure to use an appropriate humidifier additive to prevent the growth of bacterial or fungal organisms in the machine). Where possible, bring a humidifier to your workplace, as well.

Avoid spending any more time than you must in the cold, wind, or sun, and use protective creams and sun screens for the time you can't avoid. If you have developed any level of hypersensitivity to the sun (photosensitivity) or are taking a drug known to cause sun hypersensitivity, be extremely careful to avoid sun exposure as much as possible, and protect against its effects when you can't avoid it by the use of high-SPF sunscreens, clothing that covers all exposed skin, and hats to protect the scalp. Topical corticosteroid creams may also be necessary if a photosensitivity reaction develops. It is important to diagnose a photosensitivity reaction as early as possible because if it is allowed to drag on, it can worsen and then may not respond to these approaches. If a drug is thought to be the cause of this problem, discuss with your physician the possibility of substituting a different med that won't cause photosensitivity. Common meds that cause hypersensitivity to the sun are sulfa drugs and NSAID's (non-steroidal anti-inflammatory drugs such as aspirin, naproxen, sulindac, or ibuprofen).

Any time you're going to be outdoors, try to educate yourself on any possibility that might exist for coming into contact with poison ivy, poison sumac, or other plants that could attack your skin, and do the best you can to avoid them. The last thing that someone with other HIV-associated skin problems needs is a bad case of poison ivy.

Avoid really hot water when you bathe. It can wash away the natural oils that would normally hold moisture in the skin, and redden and dry out the skin surface. Instead, use water that is only moderately warm, and don't bathe or shower for too long. Using bath oils such as avocado oil while bathing may also help.

When washing your clothes, stick with fragrance-free, dye-free detergents that are designed for sensitive skin. In some people, these unnecessary additives increase the chances that the small amount of detergent left in your clothes could irritate the skin. Where possible, double rinse clothes to help wash out as much detergent as possible.

Try to avoid wearing clothing made from synthetic materials. It can trap moisture and irritate the skin. Stick with cotton, wool, silk and other natural materials. Do the same with bed linens. Cotton sheets will help keep you cool while you're sleeping. In general, try to avoid becoming too hot while you're sleeping since that could irritate a rash. Try to use only the level of covers that you really need for comfort. If you have a water bed or a plastic covering over a mattress, be sure to use a thick layer of cotton over the mattress (a thick, non-synthetic mattress cover or thick cotton towels) to prevent sweating during sleep.

**Solving bug bite hypersensitivity problems.** When hypersensitivity to bug bites develops, bites from fleas or mosquitos or chiggers or any other insects can become long-term problems, with bumps that may take 6 to 8 weeks to

heal, and may cause such severe itching that the scratching that you can't resist results in raw areas that become infected. Eliminating contact with the insects causing such problems is the key to addressing this.

To eliminate fleas in the house, the combination of CIBA-GEIGY's Basis House and Kennel Aerosol Spray to prevent eggs from hatching and 3-M's Duratrol Household Flea Spray to get rid of any adult fleas is usually very effective. The Basis is sprayed throughout the entire house on carpets, rugs, upholstered furniture, or other surfaces where cats or dogs lie. It will usually continue to work to prevent flea eggs from hatching for 6 to 12 months. There will be a noticeable smell for the first few hours after it is sprayed, but it is not generally bothersome after that. The Duratrol can be used to immediately eliminate an existing flea population in the house. The combination seems to work far better than most of the widely advertised insect "bombs" and is far easier to use. Both these products are available from veterinarians, or can be ordered from pet supply companies.

Mosquitoes can't be so easily eliminated but using effective agents like Avon Skin-So-Soft or Cutter's or Deep Woods Off insect repellants can help. However, be aware that the main chemical in most bug sprays (but not the Avon product) is DEET, a chemical that can be quite toxic when used in a strength that is too concentrated. There have been reported cases of fatalities in those who used higher-concentration formulas. It's best to stick with the lower-strength sprays that contain no more than 30 to 35 percent DEET; only apply it to the clothing, not directly to the skin; if you do get any on your skin, always wash it off with soap and hot water as soon as possible.

During the bug season, regular use of antihistamines may also help. Some dermatologists feel that most physicians under-shoot on this, using inadequate doses or only recommending them "as needed," rather than on a regular basis. They believe that antihistamines given nightly, along with additional doses during the day if the nightly dose isn't sufficient to eliminate the problem, are the best approach to decreasing sensitivity to bug bites. Warning: before using any antihistamine, always check with your physician on the possibility of interactions between the antihistamine and any drugs you're taking.

As an alternative to antihistamines, taking biotin internally seems to decrease allergic sensitivity to bug bites. It is not clear why this works, but there are anecdotal reports of biotin reducing problems in both humans and pets (cats and dogs). The result of such decreased sensitivity can be that even when a bug bites, the reaction is much less than in the past. An appropriate dose to try would be 7,500 to 15,000 mcg or so daily (one or two capsules of a potent supplement). Always remember that any single B vitamin such as biotin should be taken along with a good B complex; taking single B vitamins without the rest of the B complex can throw some of them out of balance in your body. As with the other skin problems discussed here, taking the whole list of supplements suggested above under *Skin Supportive Nutrients* can often help, both to decrease sensitivity and increase the speed of healing when skin has been scratched raw, and decrease itching. The essential fatty acids seem to be particularly important for the latter.

**Drink plenty of fluids.** Drinking plenty of water and other healthful fluids will help provide moisture in your skin. The simple rule that can be used to estimate what quantity of good liquids you need to consume daily is to take your body weight in pounds, divide it in half, and drink at least that many ounces of fluids daily.