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An HIV Information Site & HIV Educational Resource Site (HIS & HERS)

Precautions if your CD4 lymphocytes are 50 per ml or less or, How does someone with low immunity due to HIV avoid infections?

The risk of getting an opportunistic infection increases dramatically as the CD4-lymphocyte (T-cell) count falls to 200 cells/ml or below. The risk of opportunistic infection also is increased by a high HIV viral load. As the CD4-lymphocyte count falls to less than 100 cells/ml and below the risk of infection increases further. Prevention of opportunistic infections can be achieved by medications and by changing dietary and/or lifestyle patterns.

If you can take antiretroviral medications, and the medications are effective at reducing HIV viral load and indirectly improving the immune system, you may be able to eliminate a lot of these precautions as your immune system improves.

Your level of prevention is based on your CD4-lymphocyte count.

If you have 50 or less CD4 lymphocytes (T-cells) per ml , the following guidelines should be followed

Medications

Take a prophylactic medication to prevent pneumocystis pneumonia. There are several options. Here they are in order of preference.

Sulfamethoxazole/trimethoprim tablets. There are several different ways to take this medication which are all effective. This medication comes in single strength tablets, double strength tablets, and a liquid form. There are also several brand names including Bactrim and Septra. More commonly it is generic.

- a. Take a double strength tablet once a day. This is the most common and probably the easiest way to take **sulfamethoxazole/trimethoprim**.
- b. Take a double strength tablet every other day.
- c. Take a double strength tablet three days a week

Dapsone

Take 100 mg daily.

Atovaquone

Take 1500 mg daily with food. The best form of atovaquone is a bright orange colored liquid in the concentration of 750 mg for every 5 cc (1 teaspoon). Therefore, to get the correct amount one must

take 10 cc (2 teaspoons) once a day (with food.) The downside to this medication is the unpleasant taste and the cost at about \$800 per month. However, some persons are hypersensitive or intolerant to sulfamethoxazole/trimethoprim AND dapsons which necessitates the use **atovaquone**.

Primaquine and clindamycin may be used in some individuals when necessary.

Inhaled pentamidine 300 mg per month can be used when the systemic forms of prophylaxis cannot be tolerated. However, this route of administration is labor intensive, costly, and less effective than the systemic medications listed above. Inhaled pentamidine should be used as a last resort.

Take a prophylactic medication for toxoplasmosis if you are not already on sulfamethoxazole/trimethoprim. There are several options.

If you are taking **sulfamethoxazole/trimethoprim** for prevention of pneumocystis pneumonia, this medication also works to prevent toxoplasmosis.

If you are taking **dapsone** 100 mg per day, you should take pyrimethamine (Daraprim) 50 mg by mouth once a week.

Clindamycin and pyrimethamine as well as **atovaquone** may be used in the unusual situation where someone is allergic or intolerant to the other options above.

Take a prophylactic medication for Mycobacterium avium complex (MAC.) There are several options.

Azithromycin 600 mg, take 2 by mouth once a week. This is the easiest way to prevent MAC. An alternative way of taking **azithromycin** is one 250 capsule daily.

Clarithromycin 500 mg, take 1 twice a day by mouth.

Rifabutin 150 mg, take 2 by mouth once a day.

Consider taking a prophylactic medication to prevent fungal infections.

Fluconazole 100-200 mg per day by mouth may be used. However, fluconazole is expensive and overuse of this antibiotic may make it less effective for other people and you in the future.

Consider taking a prophylactic medication to prevent cytomegalovirus (CMV) infections.

Ganciclovir or valganciclovir may be used. Both drugs are expensive and may be toxic however.

Diet

General: Eat a balanced diet with emphasis on fresh fruits, vegetables, and grains. If a particular food causes a problem such as pain or diarrhea, avoid it. If you fill up easily and you need to gain weight, eat smaller and more frequent meals.

Drink bottled or filtered water if possible. If you get a filter for tap water, buy a quality filter such as those made by Pur. Avoid drinking from streams. Avoid ice cubes, drinks made with tap water such as iced tea, lemonade.

Avoid raw seafood, e.g., oysters.

Avoid undercooked meat: any meat with blood or redness visible is considered undercooked. Basically red meat should be cooked "well done." Do not wash poultry or other meats. Do not cross contaminate other foods with uncooked meat juices during preparation.

Avoid raw or undercooked eggs: any egg with a liquid yolk is considered undercooked. Caesar salads are often made with raw eggs.

All fruits and vegetables should be either washed, peeled, or cooked before consumption or any combination of those preparations may be used.

Do not eat food that has been stored in your refrigerator for more than 3 days particularly anything with red meat, poultry, or dairy products in it. Promptly refrigerate leftover food. Cook leftover food until steamy hot.

Avoid foods from delicatessen counters unless you heat/reheat the food to steamy hot. Avoid salad bars.

Avoid raw or unpasteurized milk or milk products or products that contain such.

General

Smoking: Attempt to decrease or stop cigarette, cigar, or pipe smoking. All forms of smoking produce slow (or, sometimes more rapid) lung damage and predispose the smoker to pneumonia, emphysema, cancer (mouth, throat, lung, stomach), and heart disease. Chewing tobacco or using a nicotine replacement therapy (gum, mouth spray, patch) are much safer ways of getting nicotine into your system. However, the best way to stop smoking according to most studies is to stop suddenly.

Activity Level: There are basically no limitations on your activities if you have HIV infection or AIDS unless you are informed by your healthcare provider otherwise. If you have been very ill, one of the worst things you can do is stay in a bed or a chair all day; prolonged bedrest or inactivity can rob you of your strength and muscle mass. You should force yourself to move around and do more and more

each day.

Exercise: Frequent exercise (3-4 times per week for an hour or so each day) can keep your body in shape to help avoid **fat redistribution** and to avoid the wear and tear of aging; exercise also helps to keep your mind clear, it helps you to sleep at night, and it lowers your risk of cardiovascular disease by lowering blood pressure and cholesterol. Aerobic exercise is the best type of exercise for your heart and includes walking, jogging, running, stair climbing, formal aerobics, and dancing. Working out with light weights or machines will help to keep your muscles strong.

Travel: Avoid foods in developing countries that might be contaminated such as raw fruits and vegetables, raw or undercooked seafood or meat, tap water, ice made with tap water, unpasteurized milk products, and items from street vendors. Food that are generally considered safe are fruits and vegetables that can be peeled by the consumer prior to eating, steaming hot foods, bottled (especially carbonated) beverages, hot coffee and tea, beer, wine, and water brought to a rolling boil for at least one minute. Speak to your healthcare provider about taking an antibiotic for treatment of food poisoning in case you become ill with diarrhea.

Animal Exposure & Pets

Pets are generally considered positive influences on persons with HIV & AIDS. However, some precautions should be considered.

New Pets: Avoid new pets that are less than 6 months of age especially those with diarrhea.

All Pets: Avoid direct contact with pet feces. Seek veterinary care for pets with diarrhea; have such pets examined for Salmonella, Cryptosporidium, and Campylobacter. Wash your hands after handling any pets.

Cats: Avoid mouth to mouth contact with cats. Wash your hands after handling a cat if possible. If the cat has a cat box, fecal matter from the cat should be removed every 24 hours at least. Avoid cat scratches and cat bites; seek medical attention if you are scratched or bitten and the wound does not heal promptly or if you have any ill effects. Fleas should be controlled aggressively.

Birds: Avoid contact with sick birds.

Fish & other aquarium animals: Use gloves when you clean your aquarium. Avoid pet store-purchased reptiles (turtles, snakes, lizards, etc.), ducklings, and chicks due to possible salmonella exposure. Wash your hands after any contact with aquariums, decorative fountains, or aquarium life.

Zoo Animals: Avoid petting zoos.

Laboratory Tests

Get a CD4-lymphocyte count and a HIV viral load test every 3 months if you are on or off of antiretroviral therapy.

Get a tuberculosis skin test every year.

Get a syphilis test done once a year.

Get an eye exam for cytomegalovirus (CMV) retinitis (eye infection) every 3-6 months if possible.

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