Tab 8: HIV Care and Treatment

1. **Day One: After You Have Tested Positive**

2. **Comparing Safe Sex & Contraceptive Methods**

For more information, see Tab 12 Resources (pages 9-12)

DAY ONE:

AFTER YOU'VE TESTED POSITIVE

◆

getting informed about your status and taking charge of your health

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PROJECT INFORM

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A positive HIV antibody test is scary news but it's not a death sentence. As better therapies continue to be developed, it's entirely possible to live out a normal lifespan after testing positive. The key to living a long life with HIV is availing yourself of health care and suitable therapies.

A positive result is an important medical message that may help you save and extend your life. Whether you took the test or not, sooner or later you would have learned of your HIV status.

If you learn by testing, you have a chance to slow or prevent some of the possible health outcomes. Even if you didn't get tested, HIV would present itself at some point as an infection or damage to your immune system. And, if you had waited for HIV *disease* to present itself, many of your best medical options would already be lost.

Most testing sites provide counseling to help people handle the news. The real work, however, is up to you. Given the right attitude and the right information, most people can live for a long, long time. Getting informed and taking charge of your health will help you make the best of your situation. This publication can help you with the things you need to do:

- Develop a strategy to adapt to your new situation;
- Learn more about HIV and how it can affect you;
- Understand the medical tests you'll use;
- Find ways to promote and maintain your health; and
- Learn how to use the services at Project Inform.

Reading this publication is a good first step. It's a little long, but it's worth the time. It's about saving your life.

WHAT'S INSIDE

HIV and your immune system

HIV (*human immunodeficiency virus*) is the virus that causes AIDS (*Acquired Immune Deficiency Syndrome*). Being HIV-positive does not mean that you *have* AIDS, but it does mean that you may *develop* AIDS. HIV attacks your immune system, gradually impairing how it functions.

Your immune system helps keep your body healthy by recognizing and attacking foreign substances, like viruses or bacteria. Over time, if it becomes seriously damaged or weakened by HIV, your body loses its ability to fight certain infections and cancers. These are called *opportunistic infections* (OIs).

AIDS is the most serious outcome of HIV infection. It occurs once your immune system has been significantly damaged. If you have certain OIs, it will lead to an AIDS diagnosis. This is because the presence of these OIs in your body points to a significantly damaged immune system.

An AIDS diagnosis will also be given if the counts of your immune system cells (called CD4+ T cells or simply CD4s) fall below 200. These cells are the key players in your immune system. Their "normal" range in a healthy HIV-negative person is 500–1,500 cells/mm3.

This gradual destruction of the immune system doesn't happen the same way in everyone, or even at the same pace. In some, it may not happen at all. In a small percentage of people, HIV destroys their immune systems very rapidly, in just a few years. But others remain well for 10–15 years or longer. On average, without using HIV therapy, most people remain well for about ten years before facing their first serious symptoms.

A number of things are well known about HIV infection:

- *Viral load* tests measure the amount of HIV in the bloodstream. They can generally predict how quickly HIV will damage the immune system. In effect, these tests predict the loss of CD4 cells: the higher the number, the greater the risk of damage to your immune system. Using effective treatments can greatly reduce the level of HIV and slow its rate of disease progression.
- *CD4 cell count* tests measure the level of CD4 cells, a certain type of white blood cell. These tests can measure the decline of your immune health. However, taking HIV therapy can slow the decline of your immune health. In fact, many people who start HIV therapy experience a significant increase in their CD4 counts.
- For long periods, often several years, the body copes effectively with HIV in many people. The number and percentage of CD4 cells fall, but slowly. During this period, most people feel normal and suffer no obvious ill effects. Despite this, most researchers believe that damage is still being done to the immune system. Many scientists believe that early intervention during this time may have the greatest impact, though others remain skeptical. They believe the possible side effects from early treatment might outweigh its benefits.
- Without treatment, the body slowly loses its ability to fight infections. Some infections, like *Pneumocystis jiroveci* pneumonia (sometimes called PCP), become likely when CD4 counts fall below 300 or 200. Minor infections can occur at counts above 300. Other life-threatening infections become more likely when the count falls below 100 or 50.

Disease progression

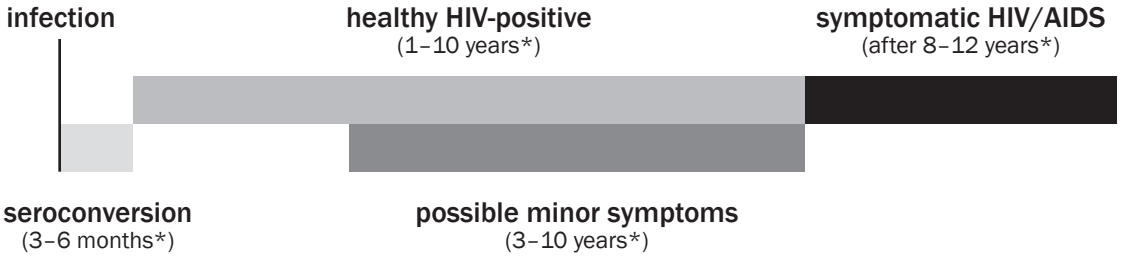
HIV is a "spectrum" illness: all who are infected have the same disease, but there are different stages to it. AIDS is the name given only to the later most serious stage. In the earlier and less serious stages, people are *HIV-positive*, meaning they tested positive on an HIV antibody test but they have no life-threatening symptoms of illness. If left untreated, most people generally progress along the spectrum toward AIDS.

HIV disease can progress slowly or quickly. Several studies have researched the rate at which it progresses when left untreated. Most conclude that about half of HIV-infected people progress to AIDS if left untreated within about ten years of infection. About three out of four (75%) reach AIDS by the 15th year.

These studies conclude that HIV is a progressive disease that leads to symptomatic illness in most people over time. Children born with HIV and people infected through blood transfusion seem to get sick more quickly. Studies suggest that when women have access to and seek regular care and monitoring, their progression rates are similar to and perhaps even slower than men. Studies that include people with hemophilia are inconclusive about their rates of progression.

Why people progress at different rates is uncertain. It may be due to differences in the strain of HIV a person gets. Others believe it is influenced by genetic differences in people, while others suspect that lifestyle factors make a difference.

the spectrum of HIV



* *average* times; *actual* times may vary greatly from person to person

what happens without intervention*

At which point do you want to do something about your HIV?

Infection and partial recovery	Gradual, stepped CD4+ decline	Risk of serious infection or AIDS

* in roughly 85–90% of HIV-infected people

checking on your immune health

With most illnesses, we wait until a disease shows up before doing anything about it. "If it ain't broke, don't fix it." But in HIV disease, the immune system starts to "break" immediately, not just when OIs show up. So keeping an eye on the health of your immune system is critically important. Two common ways to do this are: (1) noticing when symptoms occur and (2) getting lab tests done. Each can appear to have advantages and disadvantages.

Noticing when symptoms occur

This approach waits for active infections and disease to occur. In HIV, this means watching out for such things as thrush (yeast infections), PCP, Kaposi's Sarcoma (KS) lesions and so on.

ADVANTAGES

It is easier to believe and take action when we are faced with an obvious illness. People who feel sick usually want to treat the illness as soon as possible.

DISADVANTAGES

HIV disease progresses even before symptoms appear. By the time they do appear, treating the underlying problem may be less effective because your body is left with fewer defenses.

Getting lab tests done

This approach doesn't wait for symptoms or disease to occur. This means getting routine tests done to check on the different parts of your immune system. These tests include the following:

- HIV antibody tests
- CD4 cell counts
- viral load tests
- basic blood tests

ADVANTAGES

The laboratory signs of illness usually show up before you actually feel sick. Using these various test results help people and their doctors prevent serious infections *before* they occur. They also help them make treatment decisions based on real numbers and not just guesses.

DISADVANTAGES

Some people find it difficult to act on their test results, since they often feel fine no matter what the lab numbers say. People who feel healthy may be less motivated to start treatment. Test results vary, and they change for many reasons.

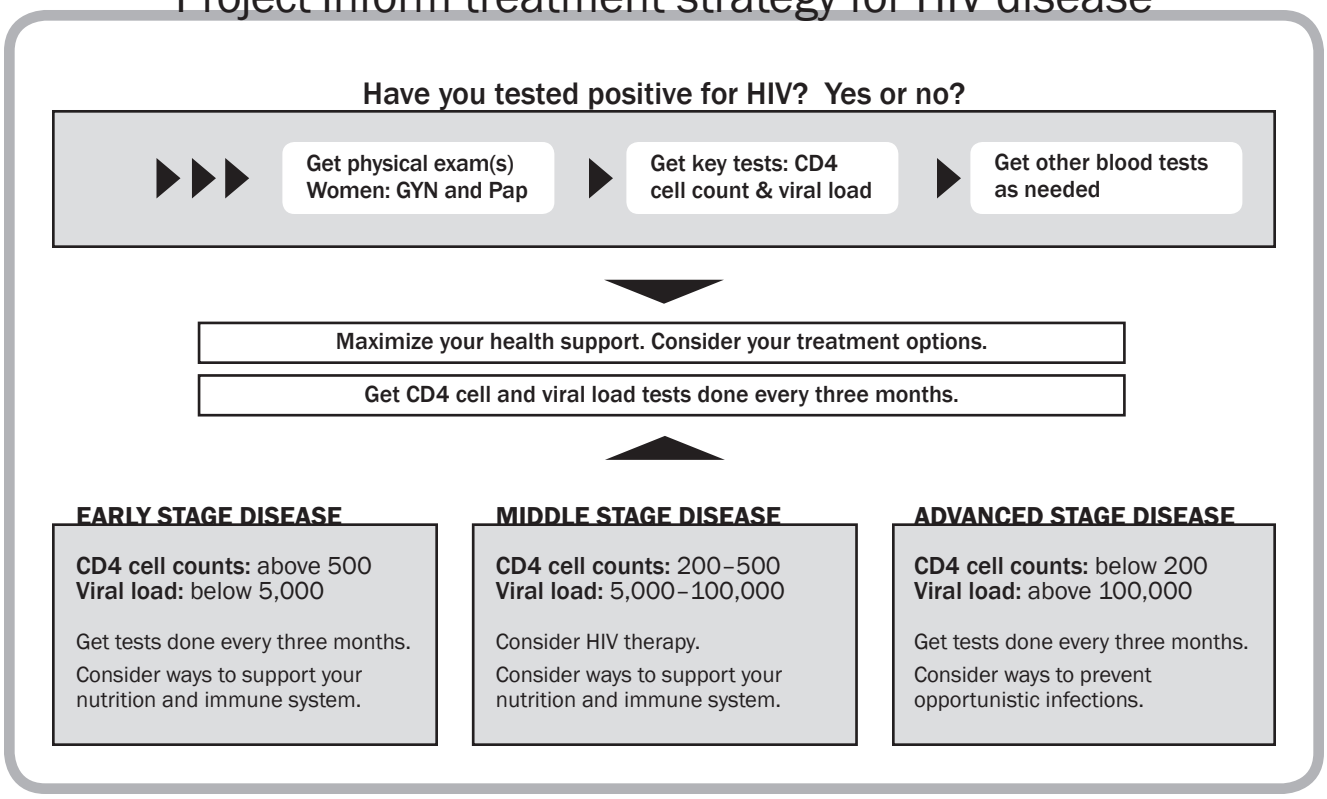
Because HIV infection can be a life-or-death matter, it is critical to choose the second approach. Taking a preventive approach makes it possible to:

- use treatments when they're most effective,
- prevent the most serious infections, and
- slow the rate of disease progression and permanent damage to your immune system.

Some people say they hesitate to act before they're sick because today's treatments are not perfect, hoping to wait for something better to come along. However, no one knows when "perfect" treatments will become available. It is well proven that today's treatments can extend survival time. Although we can't predict the results for every person, we do know what generally happens without treatment.

The purpose of preventive action is to slow the progress of HIV disease. This approach is the one that seems to offer the clearest hope. Once infected, you have one chance to manage your disease correctly. So consider your options carefully and learn how to tell when a therapy is or is not working for you. To learn more, read Project Inform's publicationS, *Making Decisions About Therapy* and *Blood Work: Two Common Tests to Use*.

Project Inform treatment strategy for HIV disease



common blood tests and what they tell you

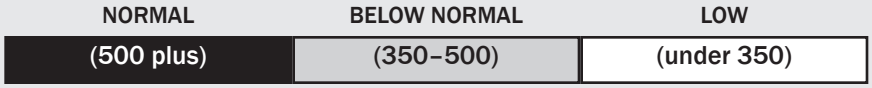
CD4 cell count tests

For many years, testing the number of CD4 cells was the only lab measure for the effects of HIV disease. Low numbers of these cells (below 200) accurately predict the risk of major infections.

Doctors encourage people to start HIV therapy when their CD4 counts are 200–350. However, these are arbitrary numbers used in studies of HIV drugs. By itself, a CD4 count doesn't tell us enough about the state of disease. It only shows that the level of CD4 cells is below normal, to varying degrees. Getting the full picture of your HIV disease requires monitoring your general health and additional tests, especially the *viral load* test and CD4 percentage.

It has become common to put people with CD4 counts below 200 or 300 on preventive treatment for PCP (often using Bactrim/Septra or dapsone), along with all people who have had an initial bout of PCP. Regardless of CD4 count, yearly checking for tuberculosis is becoming increasingly important. Prevention strategies for all of the common OIs are described in Project Inform's publications, *Opportunistic Infections Chart* and *Strategies for Managing Opportunistic Infections*.

CD4 Cell Count Ranges



Normal Range: In general, a CD4 count above 500 suggests no immediate danger. This level is sometimes used as the bottom of the "normal" range, but this can be misleading. While an occasional drop to 500 may be normal, a steady or falling count over time towards 500 or even 600 is not normal and suggests a weakened immune system. At the very least, nutritional counseling, CD4 count monitoring and using other routine tests are recommended in this range, whether or not treatments are used.

Below Normal Range: CD4 counts in this range indicate significant decline of the immune system. However, serious symptoms are uncommon. It is quite rare for a person to die of AIDS with CD4 counts in this range. Some researchers believe this is the best time to begin treatment, especially if your viral load tests also indicate significant viral activity.

Low Range: A CD4 count of 200 or less constitutes an AIDS diagnosis. CD4 counts below 350 indicate the greatest risk for infections. A person with counts below 350 may remain stable for many years, especially with thoughtful health care. While some people have warning signs (symptoms) before major infections occur, this is not always the case. Some progress directly from apparently good health to serious OIs. Generally, people with established HIV infection with CD4 counts in this range are encouraged to start HIV therapy.

Viral load tests (PCR)

Tests are available that directly measure the activity of HIV in the blood. They provide extra information to describe a more accurate picture of the risk of disease progression.

Viral load tests measure the amount of new HIV being produced and released into your blood. Studies show that higher viral loads are associated with a greater risk of losing CD4 cells and then progressing to symptoms of HIV disease. Ideally, an HIV-infected person should have no detectable level of virus, which means that HIV activity is too low to be measured by the tests.

Current tests measure down as low as 50 copies of virus. This is associated with the best possible medical outcome. Higher levels — ranging from about 30,000 (in women) to 60,000 (in men) to upwards of millions of copies of virus — are linked to higher rates of disease progression. In short, the higher the number, the more rapid the rate of disease progression.

Studies of new drugs use viral load tests to measure the effects of the drugs. A good combination of HIV drugs can quickly reduce the level of virus at least ten times and often as much as a thousand times. The goal of therapy is to reduce viral load to as low as possible, preferably below the lowest level detected by the test, below 50 copies.

HIV-positive people and their doctors use both CD4 counts and viral load tests to make decisions about if and when to use HIV drugs. These tests also help determine whether a drug is working or not. When HIV levels begin to rise again while using a drug, most doctors believe it is time to switch to another drug or combination of drugs. Also, if your CD4 counts begin falling, reassessing your HIV therapy is warranted.

At the very least, viral load tests provide a rational basis for helping some to decide when or whether to use HIV drugs, as well as a tool for determining whether or not a drug combination is working. For more information, read Project Inform's publications, *Blood Work: A Useful Tool for Monitoring HIV* and *Blood Work: Two Common Tests to Use*.

drug i.d. chart

TRADE NAME	GENERIC NAME
Protease inhibitor	
Agenerase	amprenavir
Aptivus	tipranavir
Crixivan	indinavir
Invirase	saquinavir hgc
Kaletra	lopinavir+ritonavir
Lexiva	fosamprenavir
Norvir	ritonavir
Prezista	darunavir
Reyataz	atazanavir
Viracept	nelfinavir
Nucleoside (NRTI) and nucleotide (NtRTI) analogue reverse transcriptase inhibitor	
Combivir	3TC+AZT
Emtriva	emtricitabine (FTC)
Epivir	lamivudine (3TC)
Epzicom	3TC+abacavir
Retrovir	zidovudine (AZT)
Trizivir	3TC+AZT+abacavir
Truvada	FTC+tenofovir
Videx	didanosine (ddI)
Videx EC	didanosine enteric-coated (ddI EC)
Viread	tenofovir
Zerit	stavudine (d4T)
Ziagen	abacavir
Non-nucleoside reverse transcriptase inhibitor (NNRTI)	
Intelence	etravirine
Rescriptor	delavirdine
Sustiva	efavirenz
Viramune	nevirapine
NRTI + NNRTI	
Atripla	Emtriva+Sustiva+Viread
Entry inhibitor	
Fuzeon	enfuvirtide (T20)
Selzentry	maraviroc
Integrase inhibitor	
Isentress	raltegravir

Final thoughts on testing

No single test gives a total picture of immune health or disease progression, but CD4 count and viral load test results taken together over time are very important. As we learn to manage HIV as a chronic illness, these tests provide rational guidance about what treatments to use, when and when not to use them, and how well they're working. To help you chart these various blood tests, use Project Inform's publication, *Personal Tracking Charts*.

Interventions against HIV

There are several approaches that you can take against HIV. Many are useful, but using any of them alone is not enough to keep you healthy. Unfortunately, some of these are promoted with extreme passion or as a fad, to the exclusion of the others. The best overall approach for you may be one that is inclusive, combining the best of each of those explained below that best suits your lifestyle.

1

General health maintenance

This means doing all of the things that are normally recommended for leading a healthy life. These include eating properly with nutritional support; getting enough rest; avoiding alcohol, smoking, drugs and unnecessary stress; and getting exercise and fresh air — in short, all things our doctors recommend. Taken alone, maintaining good health won't prevent you from progressing to AIDS or cure it, but it will give you the best fighting chance you have. A good defense to HIV builds upon a solid foundation of general health. For more information, read Project Inform's publication, *Strategies for General Health Maintenance*.

2

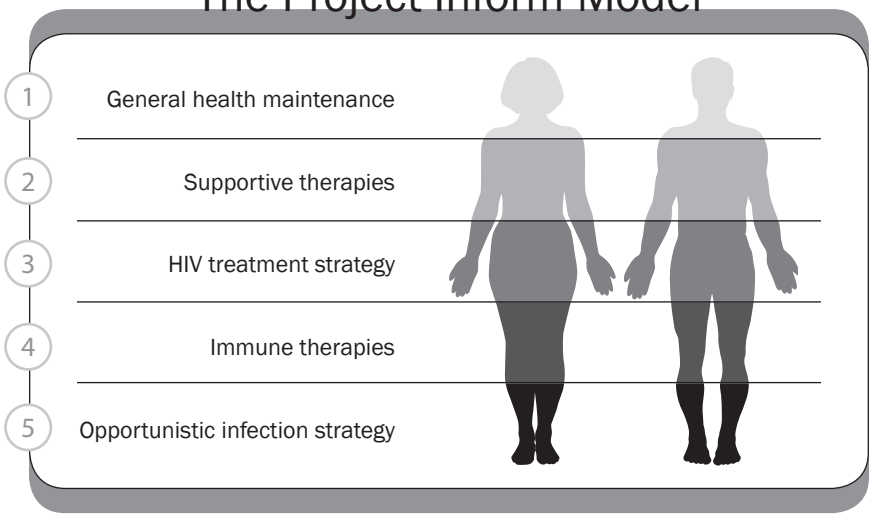
Supportive therapies

This category, sometimes called a holistic approach, can include various complementary approaches. These include stress reduction; massage; visualization, yoga and relaxation; emotional and spiritual support; natural medicines; and many others. Many of these can help you deal with symptoms of illness, drug side effects and keep your peace of mind. Taken alone, however, they won't solve the problem.

Unfortunately, some promoters of complementary therapy become strict, urging people to use them to the exclusion of all others, even the medicines recommended by doctors. When used in this way, supportive therapies can be harmful and may discourage one from getting necessary medical attention. The best promoters view these therapies as *complementing* other therapies rather than *replacing* them.

For more information, read Project Inform's publication, *Herbs, Supplements and HIV Disease*.

The Project Inform Model



3 4

HIV treatment strategy

HIV attacks and misdirects the immune system, and medicines can help slow its spread. Currently approved HIV drugs are noted in the chart on page 7.

The challenge of using these drugs is knowing when and how much to use, how to combine them, and in what order. Used alone, none of them will work for long. When used together in rational combinations, they can suppress HIV for many years and lengthen your life.

For more information on HIV treatment strategies, read Project Inform's publications, *Strategies for When to Start HIV Therapy* and *Strategies for HIV Therapy*, available at 1-800-822-7422 or *www.projectinform.org*. You can also ask for information on each of the specific drugs listed on page 7.

Immune therapies

Because the immune system is sometimes suppressed, overactive and misdirected by HIV, it makes sense to seek out medicines that might help correct some of these problems. The goal of using immune therapies is to increase the number or function of lost cells (such as CD4 cells) to restore the balance of the various parts of the immune system or to reduce the harmful activities caused by infected cells. This is easy to describe but difficult to do.

Many researchers feel that we don't yet know enough about the immune system to try to regulate it. Some therapies do influence the immune system. And similar claims have been made about some natural products. There is great popular appeal to the notion that we should somehow "boost the immune system" to help the body naturally regulate itself against HIV.

For the most part, this is little more than an empty advertising slogan. There's little evidence that anyone really knows how to do this. Moreover, the body's natural defenses almost always seem to fail in the fight against HIV. It would be unrealistic to expect that this approach on its own would solve the problems of HIV.

At this point, there's no clear or simple way to address the defects of the immune system in HIV infection. Some of the most complete information on immune therapies is available in Project Inform's publications, *Strategies for Improving Your Immune Health* and *Interleukin-2*.

Interventions against HIV, continued

5

Opportunistic infection strategy

Once the immune system has failed to a significant degree, it becomes necessary to try to prevent the most common OIs, or prevent them from coming back. OI prevention or *prophylaxis* should be considered when CD4 counts are in or nearing a danger zone. For example, the risk of getting PCP becomes high at CD4 counts of 300 or less. The risk of other infections, like CMV and MAC, increase dramatically when CD4 counts fall below 100.

The careful and timely use of medicine can prevent PCP altogether. As the rate of tuberculosis (TB) rises among HIV-positive people, testing and preventive treatment (if necessary) is recommended. Preventive treatment for other infections, including MAC and recurrent fungal infections, are available as well.

In advanced HIV disease, a person often must try to treat or prevent several OIs at the same time. This can lead to difficult choices, since many medicines can interact with each other. Two publications from Project Inform can help sort this out: *Opportunistic Infections* and *Strategies for Managing Opportunistic Infections*.

The key to successful interventions is comprehensive inclusion — doing all of the things that make sense for you. The biggest mistake is to rigidly choose one approach over the others. HIV is not a political debate or a matter of opinion; it can be a life-threatening illness. Every decision you make about treatment has consequences, and each person has little room for mistakes. So it makes no sense to bet your life on any one philosophy of medicine.

When to start treatment

Getting the earliest possible treatment is generally recommended for treating illnesses. Biologically, there's little reason to think that HIV is any different. In fact, early treatment may be even more important because of the seriousness of the disease. But just what "early" means in the case of HIV disease is not so clear.

When to start HIV medicines is the subject of a great deal of debate and theory. Some people believe that starting treatment is appropriate immediately upon learning of the infection, whether or not your CD4 count is falling, viral load is high or rising, or whether symptoms are evident. Waiting might only let the infection progress and spread to other parts of the body.

A second argument in favor of early treatment is that this may prevent losing critical cells in your immune system. But since we don't know exactly when the loss of these cells occurs, it's still hard to know "when" is the right time to start.

Some researchers prefer to withhold treatment until later in the disease. They believe it is best to save the drugs for later when HIV is more active or when your immune system shows obvious damage. They fear that treating too early may "use up" the medicines before they're most critically needed. They also fear that people will have long-term side effects from the drugs before they're truly needed.

Since none of the current drugs can be used indefinitely, this argument cannot be casually dismissed. However, even these researchers believe it's wise to start before there's evidence of major damage to the immune system. Just "when" that occurs is unclear. Almost all researchers agree that it's necessary to start anti-HIV therapy when symptoms are present, your CD4 count is falling, or your viral load is high.

We will get clearer answers to these questions as more studies are completed. In the meantime, the question remains a matter of personal choice. For information about HIV therapy, developing a long-term strategy and making decisions about therapies, call Project Inform's Hotline at 1-800-822-7422 or visit *www.projectinform.org*.

Available treatments

Project Inform provides information on using proven HIV treatments. These and any other treatments should only be used under the care of an experienced doctor. We encourage patients and doctors to enter into collaborative relationships with shared responsibility for reaching and maintaining your health.

Treatment should always occur with monitoring, which evaluates the success or failure of treatment as well as monitors for side effects. Both patient and doctor should be prepared to adjust the strategy based on the results of this monitoring process. This model of flexible, monitored treatment used in the context of a collaborative doctor/patient relationship is the key to managing HIV as a chronic illness.

Complete information on treatments is readily available, along with discussion papers on related topics. Just ask for the basic "treatment package." The latest information on these and other important treatment issues is available through Project Inform's hotline at 1-800-822-7422. Also, there are many other magazines and newsletters for persons with HIV.

the bottom line

- **HIV infection is not a death sentence; you'll be OK for quite some time, no matter what happens.**
- **You can gain power over your HIV by learning how it operates.**
- **Learn to check on your health and understand the common lab tests.**
- **Get acquainted with Project Inform's five-step model (pp 8–10).**
- **Get informed about your treatment options.**
- **Develop a treatment strategy that makes sense for you.**

Project Inform provides more than a hundred publications designed to make information about living with HIV disease, medical therapies, research advances and public policy issues easier to understand. All are available free of charge through Project Inform's National HIV/AIDS Treatment Hotline toll-free at 1-800-822-7422 or online at *www.projectinform.org*.

Sample treatment information:

PI Perspective
Blood Work: Two Common Tests to Use
Tuberculosis and HIV Disease

Sample health care strategy information:

Dealing with Drug Side Effects
Making Decisions About Therapy
Personal Tracking Charts
Strategies for When to Start HIV Therapy
Strategies for Maintaining Your General Health

Sample information for women:

Positive? How Are You Feeling?
Pregnancy and HIV
Vaginal Candidiasis
Wise Words

Sample public policy information:

TAN (Treatment Action Network) Updates
Grassroots Advocacy 101

Yes, I want to help Project Inform remain at the forefront of HIV treatment information!

☐ Enclosed is my donation of: ☐ $50 ☐ $100 ☐ $250 ☐ $500 ☐ $1,000 ☐ Other $_____

☐ Enclosed is my pledge of: $_____ per month for _____ months.

☐ (circle one) In Honor of / In Memory of: _____

☐ Please send me information on making a bequest or planned gift.

☐ I want to help even more by covering the 3% credit card processing fee (we will add this to your total).

ADDRESS

Dr./Mr. / Ms. / Mrs.

Address ☐ This is a new address.

City State Zip

Email Phone

PAYMENT

Circle One: CHECK AMEX MC VISA DISCOVER

Credit Card # Exp. Date

Print Name Shown on Card Day Phone

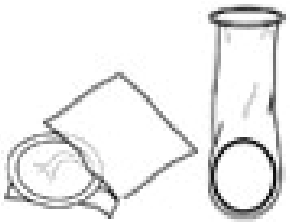
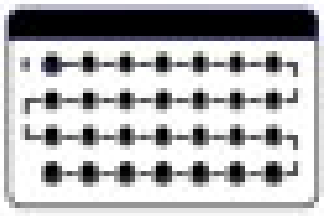
Signature FACT

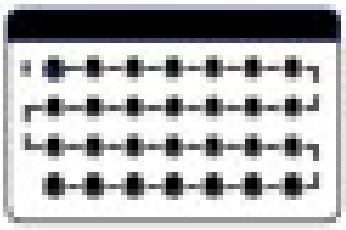
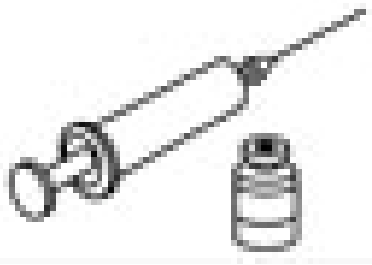
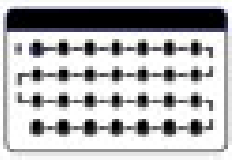
Family Planning Choices for Women With HIV: How providers can help women with HIV make reproductive decisions

Table 1. Comparing Contraceptive Methods for People with HIV

Providers can use the information in this table as they help women or men with HIV choose a contraceptive method. Important points:

- All methods are safe for people who are infected with HIV, have AIDS, or are taking ARV medications, except as specifically noted.
- Except for male and female condoms, none of these methods helps to prevent transmission of STIs, including HIV.
- Dual method use—that is, using condoms and another method of contraception together—helps to protect against STIs and provides more protection against pregnancy than condom use alone (see Dual Protection Strategies Help Prevent Pregnancy and STIs).

Method	Considerations for Women With HIV
Male and female condoms 	• The only method that helps protect against both pregnancy and STIs, including HIV. • Must be used correctly every time to be fully effective. • Maintaining consistent and correct use can be difficult.
Combined oral contraceptives (COCs) 	• Not known if certain ARVs decrease effectiveness of COCs. In case they do, condoms provide extra contraceptive protection. • Taking pills every day, without missing pills, is particularly important to compensate for any possible decrease in effectiveness when on ARVs.
Progestin-only pills (POPs)	• Not known if certain ARVs decrease effectiveness of POPs. In case they do, condoms provide extra contraceptive protection. • Particularly appropriate for breastfeeding

	women who want pills. Exclusive breastfeeding, which is the safer breastfeeding option to reduce risk of HIV transmission to the infant, provides additional protection against pregnancy. • For women who are not breastfeeding, taking pills every day, without missing a pill or pills, is particularly important in order to compensate for any possible decrease in effectiveness when on ARVs.
Progestin-only and combined injectable contraceptives 	• Not likely that ARVs reduce effectiveness of injectable contraceptives. Still, women using ARVs should be especially careful to return on time for injections. • Condoms could be used for additional protection from pregnancy, especially as the time of the next injection approaches or if a woman is late for her next injection. • It is not necessary to have the next injection early or to shorten the injection interval.
Implants 	• Not known if certain ARVs decrease effectiveness of implants. In case they do, condoms provide extra contraceptive protection.
Emergency contraceptive pills (ECPs) 	• It is thought that ARVs do not reduce the effectiveness of ECPs. • No evidence for increasing the ECP dosage for women on ARVs.
Copper-bearing intrauterine device (IUD) and levonorgestrel intrauterine device	• A woman who is at risk of HIV infection or who is infected with HIV can generally have an IUD inserted. • A woman who has AIDS, is taking ARVs, and is clinically well can generally have an

	IUD inserted. • A woman should usually not have an IUD inserted if she has AIDS and is not taking ARVs, or if she is taking ARVs, but is not clinically well. • If a woman develops HIV or AIDS while she has an IUD in place, it generally does not need to be removed. • A woman who has gonorrhea or chlamydia should not have an IUD inserted. • IUD users with AIDS should be monitored for pelvic inflammatory disease.
Female sterilization and vasectomy 	• Delay sterilization and vasectomy if currently ill with AIDS-related illness. • Special arrangements are needed to perform female sterilization on a woman with AIDS and a vasectomy on a man with AIDS. The procedure should be undertaken only in settings with experienced staff and sufficient equipment and support. • Female sterilization and vasectomy do not prevent transmission of HIV.
Lactational amenorrhea method (LAM) 	• Women who are infected with HIV or who have AIDS and choose to breastfeed their infant can use LAM. • Exclusive breastfeeding (without introducing any other foods, liquids, or water) for the first six months of a baby's life is the safer breastfeeding pattern to minimize the risk of HIV transmission through breastmilk. This pattern of breastfeeding is compatible with LAM. • If a woman's monthly bleeding returns before six months, she will need another contraceptive method while continuing to

	breastfeed exclusively. • Women with HIV and their health care providers need to consider the infant feeding options available and to weigh their various risks and consequences.
Fertility awareness methods 	• Calendar-based fertility awareness methods rely on regular menstrual cycles. For women with advanced HIV (low CD4+ cell count), irregular cycles may be common and make these methods difficult to use. • For most people, fertility awareness methods are less effective than are other modern methods of contraception.
Spermicides 	• Women at high risk of HIV infection and who have very frequent intercourse should not use spermicides. • Women with HIV infection, including AIDS, should not use spermicides.
Diaphragm 	• Diaphragms may help keep infectious organisms from reaching the cervix, however a recent study found that diaphragms do not protect against HIV infection (261). • Because diaphragms are used with spermicide, they are not generally recommended for women at high risk for HIV infection or women who are infected with HIV.

Sources: Cates 2001 (*21*); Guest 2004 (83); Rabkin 2005 (176); World Health Organization 2005 (*248*); World Health Organization 2007 (*256*)

Taken From: Information & Knowledge for Optimal Health (INFO) Project
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Family Planning Choices for Women With HIV: How providers can help women with HIV make reproductive decisions

Women With HIV Can Safely Use Most Contraceptive Methods

With few exceptions, women with HIV who decide to prevent or delay pregnancy can safely use almost any contraceptive method. Providers can help women with HIV choose and use a method that suits their needs and preferences in much the same way that they counsel other women. (For guidance specific to women with HIV, see Table 1.)

Current WHO Guidance Gives Women With HIV a Choice of Many Methods

Current guidance from WHO indicates that virtually all methods are safe for nearly every woman with HIV.

Having HIV, AIDS, or using ARVs poses no limitations on use of hormonal methods such as oral contraceptive pills (OCs), injectable contraceptives, and implants. Condoms, of course, have a special role, helping to prevent both pregnancy and STIs when they are used consistently and correctly. By following the standard precautions, health care personnel can provide all methods that require procedures—injectables, implants, IUDS, vasectomy, and female sterilization—without fears that they will become infected with HIV (see Web box, "Test Yourself: Safety Precautions and Infection Prevention in the Workplace").

Most women with HIV can use IUDs. Some have questioned the safety of using the intrauterine device (IUD) among women with HIV. They have expressed concern that pelvic inflammatory disease (PID) (infection of the upper reproductive tract, usually caused by gonorrhea or chlamydia) might be more common in IUD users with HIV than in IUD users without HIV (121). Regardless of HIV status, it is not advisable to insert an IUD in any woman who has gonorrhea or chlamydia. Because there is a higher rate of PID in the first 20 days after IUD insertion than after the first 20 days (63), there is concern that the insertion procedure could introduce these disease organisms from the lower reproductive tract to the upper (*248*).

Special concern about women with HIV has proved unfounded, however. Evidence indicates that PID is not significantly more common among IUD users with HIV than among IUD users who are not infected with HIV (*144*, 198).

In 2004 the World Health Organization updated its guidance, based on recent research, and now advises that women with HIV can generally start using either a copper-bearing IUD or a hormonal

A counselor talks to a pregnant woman with HIV in São Paulo, Brazil. Providers can help women think about their postpartum family planning options early in pregnancy. (Photo: Sean Sprague/SpraguePhoto.com)

IUD (*248*). Specific guidance includes:

- Women with HIV who do not have AIDS can generally have copper-bearing and hormonal IUDs inserted.
- Women with AIDS who are on ARVs and are clinically well generally also can have the IUD inserted.
- IUD insertion usually is not recommended for women who have AIDS and are not on ARVs, however. The IUD also is not usually recommended for women who are using ARVs but are not clinically well.
- If an IUD user becomes infected with HIV or if an IUD user with HIV develops AIDS, the IUD generally does not need to be removed. She should be monitored for signs of PID.

Female sterilization and vasectomy are safe for couples with HIV. Couples who want a permanent method of contraception can choose female sterilization or vasectomy, regardless of whether one or both of them have HIV. Women and men who are infected with HIV, including those who have AIDS, can safely undergo female sterilization or vasectomy. In some cases sterilization should be delayed. For example, women or men who have acute AIDS-related illness may have to wait until their condition is resolved before they can undergo the procedures. For people with AIDS special arrangements should be made to perform the procedure in a setting with a qualified provider who can carefully assess the specific person's condition, including the need for general anesthesia, with appropriate equipment and support (99, *248*). While some women and men with HIV find sterilization or vasectomy a good choice, providers need to be careful to avoid putting pressure on any client to have a permanent procedure, and informed choice must be assured (*45*).

Avoid spermicides. Spermicides containing nonoxynol-9 (N-9), and, by assumption, other spermicides that work in a similar manner, do not protect against HIV infection or STIs, and in fact, they may increase the risk of HIV infection in women who use these products very frequently, such as several times a day (11). Therefore, spermicides are not recommended for women at high risk of HIV infection or who have HIV infection. The concern about spermicides is that they may increase susceptibility to HIV infection or another strain of HIV. Re-infection with another strain of HIV may accelerate the progression of HIV disease (77).

The increased risk may occur because N-9 disrupts the membranes of cells in the lining of the vagina, possibly making entry easier for infectious organisms (255). Women who have multiple daily acts of intercourse should be advised to choose another method of contraception (226). Some folk medicine practices, such as douching with lime juice, may also damage the vaginal lining and should be discouraged (173).

Emergency contraception is safe for women with HIV. Emergency contraception can help prevent pregnancy after unprotected intercourse. It is an important option for all women, including women with HIV. Women can take emergency contraceptive pills (ECPs) up to five days after unprotected intercourse, although they are more effective the sooner they are taken after intercourse (249). If taken within three days (72 hours) after intercourse, ECPs reduce the risk of pregnancy by at least 75% (219). There are no data available on interactions between ECPs and ARVs. It is thought, however, that ARVs will not reduce the effectiveness of ECPs because ECPs contain higher doses of hormones than daily oral contraceptives. There is currently no evidence to justify increasing the ECP dosage for women on ARVs. Emergency contraception may be administered vaginally if the hormones taken orally cause nausea and vomiting (51, 140).

Many women, including women with HIV, lack sufficient knowledge about emergency contraception. Focus-group discussions among women with HIV in Australia, India, Kenya, South Africa, and Thailand found that many are not aware of the option (42). Providers can advise or remind women with HIV that emergency contraception can help prevent pregnancy in case of unprotected intercourse—for example, if a condom breaks or slips or is not used, if a woman starts her pack of OCs three days late or more or she forgets three or more pills in the first week, or if her IUD is expelled. Providers can give ECPs to clients to take home in advance in case the need arises. ECPs do not help to prevent STIs including HIV infection.

Women With HIV Have Special Questions About Hormonal Methods and IUDs

To help answer these questions, providers need up-to-date information on a number of topics (see companion *INFO Reports*, "Women and HIV: Questions Answered"). While research on many of these topics is limited, current knowledge is sufficient to support the guidance. Many of the concerns involve hormonal methods and are theoretical at this stage. Hormonal methods remain an important and effective contraceptive option for women with HIV.

- **Acquisition.** Hormonal methods and IUDs do not appear to increase most women's risk of becoming infected with HIV if exposed to the virus (see below).
- **Progression.** Some studies, but not others, suggest that hormonal contraceptives may affect factors that influence the speed of progression of HIV disease (see below).
- **Infectivity.** Some studies, but not others, suggest that women with HIV could be more likely to transmit HIV if they use certain hormonal contraceptive methods (see below).
- **Side effects.** Side effects of hormonal contraceptives and IUDs do not appear to be different or more frequent in women with HIV than in uninfected women (see below).
- **Drug interactions.** Some ARVs may reduce the amount of hormone in the blood, but whether this decreases contraceptive effectiveness is not known. Hormonal contraceptives do not appear to reduce the effectiveness of ARVs (see below).

Acquisition: For Most, No Additional Risk With Hormonal Methods, IUDs

A woman who does not have HIV may ask a provider if hormonal methods or IUDs increase her chances of getting HIV. The most carefully conducted studies conclude that hormonal methods do not increase the risk of acquiring HIV among women in the general population (108, *143*, 150). The largest and most rigorous study, involving over 4,500 women in Uganda and Zimbabwe, found that women using combined oral contraceptives (COCs) or the progestin-only injectable depo-medroxyprogesterone acetate (DMPA) and reporting no condom use were not more likely to become infected with HIV than users of other, nonhormonal contraceptives (*143*). Similarly, a study in South Africa found that the numbers of new cases of HIV were similar among women using either progestin-only injectables or COCs and among women not using any hormonal method, after adjusting for differences in sexual risk behaviors and the presence of STIs (150). Limited evidence also suggests that women using the copper-bearing IUD are not at greater risk of acquiring HIV (105, *128*, 141, 197).

Among populations at high risk of HIV exposure, such as sex workers, some studies find that hormonal contraception increases the risk of HIV acquisition (*116*, *128*). For example, sex workers in Kenya using COCs or DMPA had a 1.5 times and 1.8 times greater risk, respectively, of acquiring HIV than sex workers who were not using these methods, after adjusting for condom use and number of sexual partners (*116*).

Progression: Could Hormonal Methods Speed Up Disease?

Some studies, but not others, find that hormonal contraceptives may affect factors that speed the progression of HIV disease. A recent, carefully conducted study among 186 women in Uganda and Zimbabwe found no association between viral set point and use of either the DMPA or COCs at the time of HIV acquisition (142). The viral load "set point" refers to the point at which the amount of virus in a newly infected person levels off after the immune system initially attacks infected cells. Both a higher viral load set point and, to a lesser degree, infection with multiple subtypes of HIV, have been found to predict faster progression of the natural course of HIV infection (77, *115*, 134, 160, 202). In contrast, a study of 161 sex workers in Mombasa, Kenya, found that women using DMPA at the time of HIV acquisition had a higher viral load set point, on average, and women using OCs or DMPA were more likely to be infected with multiple subtypes of HIV than women who used no contraceptive method at the time of infection (*6*).

Similarly, among women with established HIV infection, there is limited and conflicting evidence regarding whether starting a hormonal contraceptive affects disease progression. An analysis of U.S. data found no association between contraceptive use and changes in viral load over time among 177 women with established HIV infection who started OCs, DMPA, or *Norplant*® implants (23). A study of postpartum women with HIV in Kenya also found no significant immediate or longer-term effects of the use of OCs or DMPA on viral loads or CD4+ cell counts (see From Exposure to AIDS: The HIV Disease Continuum, for an explanation of CD4+ cells) (*181*). A recent randomized trial in Lusaka, Zambia, among postpartum women with HIV, however, found that progression to AIDS (as indicated by a fall in CD4+ cell counts to less than 200 cells) or death was more common among women randomly assigned to hormonal contraception than among those assigned to the copper-bearing IUD (*209*). A substantial number of women discontinued their randomized assigned methods, switched their contraceptive methods, or withdrew from the study. Further analysis suggests this is not likely to account for the finding, however (208).

More studies are needed to better understand whether there is a relationship between use of hormonal contraceptives and disease progression. A 2007 WHO technical meeting recommended further investigation and asked researchers currently studying cohorts of HIV-infected women to examine their data (*254*). At this point the evidence on disease progression is limited. Providers may want to advise women who ask about disease progression that researchers are looking into it but that there are no limitations on use of hormonal methods because of this or any other concern regarding HIV.

Infectivity: Limited and Unclear Evidence on Viral Shedding

Limited evidence suggests that women with high amounts of HIV in their genital secretions are more likely to transmit the virus to an uninfected partner during unprotected vaginal intercourse than women with low amounts of HIV in their secretions (7, 170). Evidence is conflicting as to whether COCs, DMPA, and possibly other hormonal contraceptives increase genital shedding, either indirectly by increasing a woman's susceptibility to STIs, or directly by affecting the concentration of virus in genital secretions through shedding of HIV-infected cells from the cervix or vagina (31, *89*, 109, *146*, *231*).

Some studies suggest that hormonal contraceptives might indirectly affect infectivity among women with HIV by increasing their susceptibility to some STIs (37, 73, 107). A study of Kenyan sex workers with HIV, after taking into account demographic characteristics and sexual behavior, found that those who used hormonal contraceptives were more likely to have chlamydia and cervicitis (*117*). It is thought that coinfection with an STI—that is, when a woman

is infected with both HIV and another STI—can increase genital shedding of HIV, which might increase the risk of transmitting the virus to sexual partners (132).

Two studies in Kenya found that women who began using DMPA or COCs shed more HIV-infected cells from the cervix than before they used them (*231*) or when compared with women not using hormonal contraception (*146*). In contrast, studies have generally found no association between hormonal contraception and genital shedding of cell-free virus—that is, HIV that exists outside of cells within the bloodstream (109, *231*). It is not fully understood whether there is a difference in infectiousness between HIV-infected cells and virus free of cells (100, 167, 193). The only available direct study of transmission, involving 156 women with HIV, found no association between the use of hormonal contraception and HIV transmission to uninfected male partners (*59*).

IUDs do not appear to increase the infectiousness of women with HIV. The same study that examined risk of transmission among oral contraceptive users found that copper-bearing IUDs did not increase the risk of HIV transmission from women with HIV to uninfected partners beyond the risk inherent in unprotected vaginal sex (*59*). The two studies that have looked at the prevalence of HIV-infected cells in the cervix found no greater shedding due to IUD use (*146*, 180).

While some concern about the effect of hormonal contraceptives on the risk of HIV transmission is warranted, the most important advice for women with HIV who use hormonal contraception and their uninfected partners is to continue using condoms (see Dual Protection Strategies Help Prevent Pregnancy and STIs). Correct and consistent use of condoms minimizes the chances that, during sexual intercourse, the penis will come into contact with genital secretions that might contain HIV. Many factors influence how infectious a woman with HIV is, including stage of disease, whether she has a concurrent STI, and whether or not she is using ARVs.

Side Effects: Similar for Women With HIV and for Uninfected Women

A health care worker in Chiang Mai, Thailand shows a client with HIV a wristwatch that can help her remember to take her ARV medicine on time. Clients who take ARVs and use oral contraceptive pills or injectable contraceptives should also remember to take pills or receive follow-up injections on time.
(Photo: © 2004 Melissa May, Courtesy of

Contraceptive side effects such as bleeding changes with hormonal methods or IUDs do not appear to be different in women with HIV and uninfected women. Observational studies of 41 women using implants in Thailand (*213*, 214) and 18 women using the hormonal levonorgestrel-releasing IUD (LNG-IUD) in Finland (*89*, 118) found that both methods were acceptable to women with HIV. Only a few women discontinued their method, none experienced pregnancy, and the frequency and type of side effects were similar to those experienced by women not infected with HIV in other studies. As for the copper-bearing IUD, a Kenyan study found that IUD users with HIV experienced no more PID or expulsions due to infection or pain than uninfected women in the 24 months following insertion (*144*). Studies of hormonal contraceptive use in the U.S. (232) and Kenya (*117*) and of DMPA and COCs specifically in Zambia (209) found contraceptive side effects in women with HIV to be similar in type and frequency to those among uninfected women in other studies.

Photoshare)

Drug Interactions: Do ARVs Reduce the Effectiveness of Low-Dose Hormonal Contraceptives?

Limited evidence suggests that certain ARVs could alter blood levels of contraceptive hormones in women using low dose OCs (248). Theoretically, this could influence the effectiveness of these contraceptives. The biological basis behind this concern is that some classes of ARVs—the protease inhibitors (PIs) and the non-nucleoside reverse transcriptase inhibitors (NNRTIs)—speed up processing of hormonal contraceptives in the liver. This would lower the levels of estrogen and progestin in the blood (153, *195*) (see Table 2).

Two small studies reported that the ARVs nevirapine and ritonavir could lower both estrogen and progestin levels enough to increase risk of contraceptive failure. Both studies evaluated the effect of just a single dose of COC; one pill containing 50µg of estrogen (plus a progestin) in one study (163) and one pill containing 35µg of estrogen (plus a progestin) in the other (135). No information is available on women taking a pill every day. Thus, it is not clear whether or how much contraceptive effectiveness would be reduced (153). A conclusive observational study of actual pregnancy rates among pill users would be difficult because inconsistent or incorrect pill use, which could lead to pregnancy, would be hard to distinguish from the effect of the ARV.

Despite the theoretical concern about contraceptive effectiveness, women taking ARVs still generally can use COCs. If a woman using ARVs wants to use COCs, she can be given a formulation with at least 30µg of estrogen, counseled about the importance of taking COCs every day (without missing pills), and encouraged to use condoms consistently. Correct and consistent condom use would help to make up for any decrease in effectiveness of the oral contraceptives as well as help to protect an uninfected sexual partner (195).

There is less concern that these ARVs could reduce the effectiveness of progestin-only injectable contraceptives (POIs) and implants. POIs provide high hormone levels, and, with both methods, the hormones are absorbed into the blood before they are metabolized by the liver, in contrast with OCs, which are first metabolized in the liver and then enter the bloodstream. The few studies available find that ARVs have little or no effect on hormone levels in DMPA users with HIV (*30*, 33, 153). At this time there are no studies on the effect of ARVs on the effectiveness of combined estrogen-progestin injectables or the progestin-only injectable NET-EN, but no effect is expected because injectable contraceptives do not pass first through the liver. Still, providers can emphasize returning on time for the next injection. This will help to ensure that hormone levels remain high enough to prevent pregnancy (195). Two studies are underway to further evaluate potential interactions between DMPA and ARVs (153).

Hormonal contraceptives do not appear to reduce the effectiveness of ARVs. A limited number of studies indicate that hormonal contraceptives do not influence the effectiveness of the ARVs tested. One study among women with HIV in the U.S. found no significant changes in the blood plasma levels of the ARVs nelfinavir, efavirenz, or nevirapine 12 weeks after women started using DMPA (33). Similarly, studies have found that use of COCs has no effect on plasma levels of the ARVs nevirapine or fortovase (131, 135). Studies in rats have found that combined injectables reduce the concentration of amprenavir by 20%. It is not known whether this effect occurs in humans (260).

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HUMAN PAPILLOMAVIRUS AND HIV DISEASE

information about the special concerns for people living with h.i.v and h.p.v.

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The human papillomavirus (HPV) is the most common sexually transmitted infection in the US. About 20 million people are infected at any one time. Nearly half of all sexually active people have had HPV at some point in their lives. Since it often doesn't cause symptoms, many never know they've had it.

Though most types of HPV do not cause serious disease, some can lead to cancerous conditions. Left untreated, these high-risk types can cause cervical and anal cancers and other cancers much less often in the vulva, penis and scrotum. HPV has become a growing concern for people living with HIV since they're at higher risk for both HPV infection and disease.

What is HPV?

HPV is a virus that lives in the flat, thin cells on the surface of your skin, called *epithelial cells*. These cells are also found on the surface of the vagina, vulva, cervix, anus, penis head, mouth and throat, which is why having sex can easily pass the virus onto others. Most people who get HPV clear the infection on their own, often within 6 months to a year.

More than 200 types of HPV exist. Some do not appear to cause health problems while others cause the common wart. (Most of these are caused by types 1, 2 and 4.) About 40 types are responsible for *genital warts*, while about a dozen high-risk types can cause *dysplasia*, which are abnormal cells that can lead to cancer. HPV types 6 and 11 cause about 90% of genital warts. Types 16 and 18 cause about 70% of cervical and anal cancers. Other high-risk types include 31, 35, 39, 45, 51, 52 and 58.

Some people fear that having genital warts can lead to cancer. The HPV types that cause genital warts are not linked to cancer. However, if you have one type of HPV you may also have others, which could be ones that cause cancer. This is especially true for people with HIV.

What are the symptoms?

Symptoms often don't appear when you have HPV, for both high- and low-risk types. This makes it difficult to know if you have HPV; but it also means that considering HPV may be en essential part of your routine health care. Some doctors may not consider it an important issue, which may leave you to bring up the topic during your visits.

For genital warts, symptoms include small bumps or growths on the skin. They can appear as one or several bumps, or even in groups. They can be round and flat or differ in size. Other times they're shaped like the surface of a cauliflower. Genital warts can appear on the vagina, vulva, cervix, penis, scrotum, anus and the areas around the sex organs like the groin or inner thighs. Rarely, genital warts appear in the mouth or throat. When they're present, genital warts are usually painless, though some itching or discomfort may occur.

For dysplasia, since symptoms are often not present, it's important to get regular Pap smears to diagnose dysplasia as early as possible. Pap smears can be used to check the cervix as well as the anus. Routine Pap tests in women have greatly decreased the number of cervical cancers in the US since the 1960s to about 11,000 each year.

How is HPV spread?

HPV is passed through skin-to-skin contact. It is very easily passed during oral, vaginal and anal sex through mucous membranes, body fluids and small breaks in the skin. This includes surfaces of skin that you can see, like the surface of the vulva, and on what you can't see, such as the surface of the cervix or anus.

Who is at risk for HPV?

You are more at risk for HPV infection and disease if you're sexually active, especially at an early age. The more sex partners you have and having a sex partner who has had many partners also puts you at higher risk. HPV occurs more often in people 17–33 years of age, though anyone can get HPV. Also, if you smoke, you are at an increased risk for getting HPV.

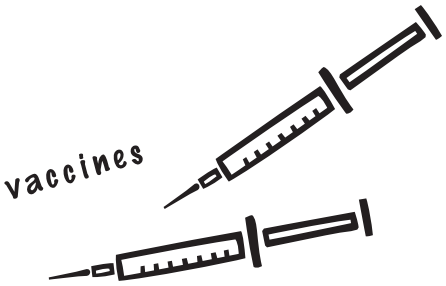
People living with HIV are more at risk for getting HPV and for having more stubborn symptoms. This includes genital warts that persist or reappear after treatment and higher rates of cervical and anal dysplasia. Sexually active gay and bisexual men have about a 17 times higher risk of anal dysplasia and cancer. All people living with HIV are also at a higher risk for anal dysplasia, whether or not they've had anal sex.

How do you prevent HPV?

The only way to prevent getting HPV is by not having sex. Since this is not an option for many people, there are other ways to reduce your risk of getting HPV. Limiting the number of partners and choosing partners who've had few or no sexual partners can reduce your risk.

Using a condom can help you prevent getting HPV, but it doesn't fully protect you. This is because HPV can live in skin areas that are not covered by a condom. However, studies show a noticeable drop in HPV cases when condoms are used. Also, stopping smoking will help reduce your risk of getting HPV.

Lastly, for women, getting an HPV vaccine can greatly reduce their risk of getting certain types of HPV. Currently, the vaccine called Gardasil protects against low-risk HPV types 6 and 11 and high-risk types 16 and 18. For those who haven't already had these types of HPV, Gardasil is nearly 100% effective. Federal guidelines recommend Gardasil for girls 11–12 years of age before they become sexually active, though girls as young as 9 and women up to age 26 are also recommended.



A second vaccine, Cervarix, is now in large study and should be available soon. It protects against high-risk HPV types 16, 18, 31 and 45. It also is nearly 100% effective in those who haven't already had those four types. Cervarix will not prevent genital warts.

Getting a vaccine does not substitute for getting regular Pap tests. Women who get vaccinated should still stay on regular Pap schedules. Since higher rates of anal dysplasia occur in people with HIV, these individuals may want to discuss with their doctors about getting anal Paps done. Neither vaccine is used in boys or men, though some studies are now looking at its safety and effectiveness.

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How is HPV diagnosed?

Genital warts are diagnosed by a visual exam by your doctor. The areas can include the outside the body in and around the genital area and inside the body such as the vagina, cervix, anus or rectum.

Dysplasia is diagnosed through a cervical or anal Pap test done by your doctor. An HPV DNA test may also be done. If it hasn't been done and the Pap results come back showing dysplasia, your doctor may do the DNA test to see what types of HPV are present. DNA tests are currently done in women only.

Other types of exams may also be done depending upon the results from or in addition to a Pap test. To further examine the cervix, your doctor may use a *colposcope*, which is a special microscope that looks at the cells of the cervix, vagina and vulva.

To examine the anus, you may have a DRE (*digital rectal examination*) done, which is when your doctor inserts a finger into the anus to check for bumps or other abnormal tissue. An HRA (*high-resolution anoscopy*) may also be done, which is when your doctor inserts a special microscope into the anus to more closely check the tissue.

A biopsy of cervical or anal tissue may also be done. This is done during a Pap test and removes a small piece of tissue to be screened for abnormal cells. The procedure can be painful.

HPV and cervical dysplasia

Standards of care for screening cervical dysplasia have been in place since the 1960s. All women should start getting routine Pap smears within three years of becoming sexually active and no later than 21 years. *Routine* most often means every three years if Pap results come back normal and more frequently if the results show dysplasia.

HPV and anal dysplasia

Infection with HPV in the anus is rather common. It most often happens due to anal intercourse; however, it can occur from other areas having been infected. Only a fraction of people with anal HPV infection will develop a lasting case of *anal intraepithelial neoplasia* (AIN). Although even fewer will go on to develop anal cancer, the rate of anal cancer continues to rise especially in HIV-positive people.

How is HPV treated?

Treating HPV focuses on treating its symptoms, like genital warts and dysplasia. Since most people's immune systems are able to rid their bodies of HPV on their own within 6–12 months, treatments have not been developed to get rid of the virus.

Many treatments for HPV disease exist, and they may depend upon the level of disease you have. You can discuss the options with your health provider to find one that best suits you. Even after treatment, both genital warts and dysplasia can return so treatment may take several months. It's wise to continue checking and report symptoms should they reappear.

Treating genital warts may be done by you or by your doctor. Treating dysplasia must be done by your doctor. Some treatments cause more discomfort than others, and some require recovery time. People living with HIV more often need more aggressive treatment to treat their HPV disease.

Treatments for genital warts and dysplasia

Procedure	Used for	What happens	Success	Side effects	Notes
Watch and wait	Internal or external warts, LSIL and HSIL.	Warts may take about 6 months to fully appear.		None.	About 2 in 5 clear warts on their own. Most LSIL resolves on its own.
Aldara (imiquimod) cream	External warts and LSIL.	Patient applies on warts 3x a week for up to 16 weeks.	30–50%	Possible burning and irritation	May take 3–4 weeks to start working. Safety in pregnancy unknown.
Condylox or Podofilox (podophyllotoxin)	External warts and LSIL.	Patient applies cream/gel on warts 2x a day for 3 days, then 4 days off, for up to 16 weeks.	45–80%	Possible burning, irritation, tenderness.	Warts not responsive may need other type of treatment. Safety in pregnancy unknown.
Efudex (fluorouracil) cream	External warts.	Patient applies on warts 3x a week for up to 16 weeks.	45–80%	Possible burning.	
Trichloracetic (TCA) or bichloracetic (BCA) acid	Internal or external warts, LSIL and HSIL.	Doctor applies directly on warts. Patient washes off later.	50–80%	Burns when applied, though usually short-term.	Usually used several times.
Cryotherapy	Internal or external warts.	Freezes warts off with liquid nitrogen or other substance.	60–90%	Possible irritation, burning, and discomfort.	For limited disease. Used several times usually. Safe during pregnancy.
Electrocautery	Internal or external warts, LSIL and HSIL.	Electric current burns off warts.	80–90%	Irritation, burning and discomfort are common.	Usually used once. Safe during pregnancy.
Infrared coagulation (IRC)	Internal or external warts, LSIL and HSIL.	Applies a lower level of heat than laser or electrocautery.		Possible discomfort, irritation and bleeding.	Briefer recovery. Usually one treatment. Safe during pregnancy.
Laser	External, possibly internal, warts, LSIL and HSIL.	Laser controls level of treatment to remove disease.	20–50%	Pain is common.	Safe during pregnancy.
LEEP (loop electrosurgical excision procedure)	Cervical LSIL and HSIL.	Thin wire electrode removes abnormal cells.		Possible pain, discomfort and bleeding.	Outpatient procedure.
Cone biopsy	Cervical LSIL and HSIL.	Removes cone-shaped amount of tissue from cervix.		Pain likely with some recovery.	Outpatient procedure.
Podophyllin solution	External warts.	Doctor normally applies to affected area. Patient washes off later.	30–80%	Possible discomfort.	Not to exceed 3–4 uses. Not safe in pregnancy. May be carcinogenic.
Outpatient surgery	Internal or external warts, LSIL and HSIL.	Occurs in doctor's office, removes disease with tool.	Up to 90%	Likely pain, irritation, ulcers and bleeding.	Longer recovery. Safe during pregnancy.

Special concerns for people living with HIV

HPV infection and disease are more common and persistent in people living with HIV. HIV-positive women are at a higher risk for cervical dysplasia. HIV-positive men and women are both at increased risk for anal dysplasia, whether or not they've engage in anal sex. A much higher rate of anal dysplasia occurs in gay and bisexual men living with HIV. Nearly all HIV-positive men who have had receptive anal intercourse have anal HPV infection.

Treating HPV disease is an emerging issue for people with HIV. Standards of care are not in place to screen and treat anal dysplasia. Expanding research over the past two years has helped bring this concern closer to the forefront for both people with HIV and their doctors. However, this still may lead to gaps in medical attention, especially for people living with HIV. Those with CD4 cell counts below 100 are more likely to have more persistent HPV disease and may not respond to HPV treatments as well as others do.

Therefore, it's wise to engage with your health provider in more routine screening for cervical and especially anal dysplasia. Though an anal Pap smear is similar to a cervical Pap, some doctors may not know how to do one or are comfortable with doing one.

Special concerns for pregnant women, children and people over 50

The risk of passing HPV onto a baby during pregnancy or birth is very low. However, treating HPV can affect a pregnancy. Make sure to tell your doctor if you're pregnant or considering pregnancy when discussing your treatment options. Some treatments, like Condylox, should not be used because of possible birth defects.

Since the HPV that causes genital warts and dysplasia is sexually transmitted, few concerns apply to children. The HPV vaccine Gardasil is recommended for girls starting at age 9, before sexual activity starts. There is currently no vaccine to protect boys from HPV.

Since cases of HPV more often occur in people aged 17–33, people over 50 are generally less at risk for getting the infection. However, it's still possible for an adult to get HPV at any age. If your immune system is weakened or if you smoke, then you are more at risk for HPV disease. HPV infection and disease is not well studied in people over 50.

What may help to ask about at a doctor's visit?

- **Do you have enough information about me and my risks for HPV?**
- **What is my risk for getting HPV and developing HPV disease?**
- **What tests should I get done to screen for possible HPV?**
- **How often do you recommend I get a cervical and/or anal Pap smear done?**

internet resource

The UCSF Anal Neoplasia Research & Treatment Unit has a website with information about anal dysplasia at www.analcancerinfo.ucsf.edu.

HPV terms

You may hear your doctor use some of the terms below when talking to you about HPV. Many of them are used interchangeably.

- **Intraepithelial:** This refers to inside the top layers of skin. (*Intra* = inside, *epithelial* = top layer.) This skin tissue is tightly packed. It covers the body and lines its inside surfaces.
- **Squamous:** This refers to the flat cells found on the surface of skin. As young cells from the bottom layer of skin rise, they mature and flatten out to become squamous cells. HPV likes to live in these cells.
- **Dysplasia:** This refers to the growth of abnormal cells. (*Dys* = abnormal, *plasia* = growth.) If skin cells don't mature properly due to HPV infection, they can look different in shape and size, which results in dysplasia.
- **AIN** (*anal intraepithelial neoplasia*): This refers to the growth of new cells found on the surface of the anus. There are three grades: AIN 1, which is low-grade with few cells as dysplasia; AIN 2, which is moderate with many more cells as dysplasia; and AIN 3, which is high-grade with all or nearly all the surface as dysplasia (also called CIS, see below).
- **CIN** (*cervical intraepithelial neoplasia*): This refers to the growth of new cells found on the surface of the cervix. Similar to AIN, there are three grades: CIN 1, CIN 2, and CIN 3.
- **CIS** (*carcinoma-in-situ*): Simply put, this means "cancer in place", which means cancerous cells are found in the top layers of skin and not any further into the soft tissue below.
- **SIL** (*squamous intraepithelial lesion*): This refers to the presence of abnormal tissue found in the top layers of skin.
- **LSIL** (*low-grade squamous intraepithelial lesion*): This refers to surface skin tissue that contains a few abnormal cells. Most often, LSIL will clear on its own, though routine screening should continue.
- **HSIL** (*high-grade squamous intraepithelial lesion*): This refers to surface skin tissue that has a moderate or severe number of abnormal cells. It is not known which types of HSIL become cancer.
- **ASCUS** (*atypical squamous cells of undertermined significance*): This refers to surface skin tissue that has some abnormal cells but not so much as to be called dysplasia.
- **ASCH** (*atypical squamous cells, cannot exclude HSIL*): This refers to surface skin tissue that has abnormal cells similar to HSIL but cannot be called HSIL.
- **Cancer:** This refers to a high level of abnormal cells found in the skin's surface tissue that continue to grow on their own. Also called CIS.
- **Invasive cancer:** This refers to a diagnosis of cancer that has moved into the soft tissue below the skin and perhaps into other parts of the body.

For more treatment information, call Project Inform's toll-free National HIV/AIDS Treatment Hotline at 1-800-822-7422.

State of California - Health and Human Services Agency

California Department of Public Health
Office of AIDS
HIV/AIDS Surveillance Program

ADULT HIV/AIDS CONFIDENTIAL CASE REPORT
(Patients ≥ 13 years of age at time of diagnosis)

I. This is for Health Department use. Uniquely identifying information is not transmitted to the Centers for Disease Control and Prevention.

Patient's name (last, first, MI) | Telephone number ( ) | Social Security Number

Address (number, street) | City | County | State | ZIP code

Date form completed (Month Day Year) | Report status: 1 New, 2 Update

II. *Health Department Use Only*

Report source | Reporting health department | State patient number | City/county patient number

Soundex code | Date of birth (Month Day Year) | Gender: 1 M, 2 F, 3 M►F, 4 F►M | CLIA number | Lab report/Accession number | *Confidential C&T number

*Publicly funded confidential counseling and testing sites only

III. Demographic Information

Diagnosis status at report (check one): 1 HIV Infection (not AIDS)..... 2 AIDS..... | Age at Diagnosis Years

Current status: 1 Alive, 2 Dead, 9 Unknown | Date of death (Month Day Year) | State/Territory of death

Country of birth: 1 U.S., 7 U.S. Territories (including Puerto Rico), 8 Other (specify):_____, 9 Unknown

ETHNICITY: 1 Hispanic, 2 Not Hispanic nor Latino

RACE: ☐ American Indian/Alaskan Native ☐ Black or African American ☐ Asian ☐ Native Hawaiian/Other Pacific Islander ☐ White ☐ Unknown

Expanded race (specify):_____

☐ Check if HIV infection is presumed to have been acquired outside United States and Territories. Specify country:_____

Residence at first diagnosis of HIV or AIDS: ☐ Homeless (Must use city/county/ZIP code of local health department (LHD) or facility of diagnosis.)

City | County | State/Country | ZIP code

IV. Facility of Diagnosis

Facility name | City | State/Country

Facility setting (check one): 1 Public, 2 Private, 3 Federal, 9 Unknown

Facility type (check one): 01 Physician, HMO; 22 Counseling and Testing Site; 29 Community Health Center; 30 Correctional Facility; 31 Hospital, inpatient; 32 Hospital, outpatient; 88 Other (specify):_____; 99 Unknown

V. Patient Risk History (Check all that apply.)

	Yes	No	Unknown
• Sex with a male	1	0	9
• Sex with a female	1	0	9
• Injected nonprescription drugs	1	0	9
• HETEROSEXUAL relations with any of the following:			
• Intravenous/injection drug user	1	0	9
• Bisexual male	1	0	9
• Person with hemophilia/coagulation disorder	1	0	9
• Transfusion recipient with documented HIV infection	1	0	9
• Transplant recipient with documented HIV infection	1	0	9
• Person with AIDS or documented HIV infection, risk not specified	1	0	9
• Received clotting factor for hemophilia/coagulation disorder	1	0	9

Specify disorder: 1 Factor VIII (Hemophilia A) 2 Factor IX (Hemophilia B) 8 Other (specify):_____

	Yes	No	Unknown
• Received transfusion of blood/components (other than clotting factor) First: (Month Year) Last: (Month Year)	1	0	9
• Received transplant of tissue/organs or artificial insemination.	1	0	9
• Worked in a health care or clinical laboratory setting..... (Specify occupation):_____	1	0	9
• Perinatally-acquired HIV infection regardless of year of birth...	1	0	9
• Other (specify)_____	1	0	9

VI. Laboratory Data (Indicate first documented test(s).)

A. HIV Antibody Test at Initial HIV/AIDS Diagnosis (Month Day Year)

- HIV-1 EIA.....
- HIV-1/HIV-2 combination EIA.....
- Rapid HIV-1 EIA.....
- HIV-1 Western Blot/IFA.....
- Other HIV antibody test..... (Specify):_____

B. *Positive* HIV Detection Test *(Record earliest test.)* (Month Day Year)

☐ Culture ☐ Antigen ☐ DNA PCR ☐ RNA PCR

☐ Other (specify):_____

Date of last documented ***negative*** HIV test..... (Month Day Year)

Specify type:_____

Specify facility type (use codes in Section IV):

01 22 29 30 31 32 99 88 (Specify):_____

If HIV laboratory tests were not documented, is HIV diagnosis documented by a physician? Yes 1 | No 0 | Unknown 9

If yes, provide date of documentation by physician..... (Month Day Year)

C. HIV Viral Load Test *(Record earliest test.)* (Month Day Year)

Test type*: Version*:

Other (specify type and version):_____

Test result *(Record in copies/mL **and** log_{10} values.)*

☐ Detectable Copies/mL: , , Log_{10}: . Greater than: , , copies/mL

☐ Undetectable Less than: copies/mL

* Test type and version: 11 = NucliSens® HIV-1 QT (Organon-NASBA); 12 = Amplicor HIV-1 Monitor® (Roche-RT-PCR), version: 1.0 or 1.5; 13 = Bayer/Chiron (bDNA), version: 2.0 or 3.0; 18 = Other (kit name/manufacturer/version)_____

D. Immunologic Lab Tests - At or closest to current diagnostic status

- CD4 count..... , cells/µl
- CD4 percent..... %

(Month Day Year)

First <200 µl or <14%

- CD4 count..... , cells/µl
- CD4 percent..... %

(Month Day Year)

VII. Provider Information

Physician's name (last, first, MI)				Physician's telephone number ( )	Patient's/inmate's medical record number
Address (number, street)	City	State	ZIP code	Person completing form	Telephone number ( )

VIII. Clinical Status

Clinical record reviewed: Yes [1] No [0]

Enter date patient was diagnosed as:
- Asymptomatic (including acute retroviral syndrome and persistent generalized lymphadenopathy).....
- Symptomatic (not AIDS).....

Month / Day / Year

AIDS INDICATOR DISEASES	Initial Diagnosis Def.	Initial Diagnosis Pres.	Initial Date Month	Initial Date Year
Candidiasis, bronchi, trachea, or lungs	1	NA		
Candidiasis, esophageal	1	2		
Carcinoma, invasive cervical	1	NA		
Coccidioidomycosis, disseminated or extrapulmonary	1	NA		
Cryptococcosis, extrapulmonary	1	NA		
Cryptosporidiosis, chronic intestinal (>1 month duration)	1	NA		
Cytomegalovirus disease (other than in liver, spleen, or nodes)	1	NA		
Cytomegalovirus retinitis (with loss of vision)	1	2		
HIV encephalopathy	1	NA		
Herpes simplex: chronic ulcer(s) (>1 month duration): or bronchitis, pneumonitis, or esophagitis	1	NA		
Histoplasmosis, disseminated or extrapulmonary	1	NA		
Isosporiasis, chronic intestinal (>1 month duration)	1	NA		
Kaposi's sarcoma	1	2		
Lymphoma, Burkitt's (or equivalent term)	1	NA		
Lymphoma, immunoblastic (or equivalent term)	1	NA		
Lymphoma, primary in brain	1	NA		
Mycobacterium avium complex or *M.kansasii*, disseminated or extrapulmonary	1	2		
M. tuberculosis, pulmonary*	1	2		
M. tuberculosis, disseminated or extrapulmonary*	1	2		
Mycobacterium of other species or unidentified species, disseminated or extrapulmonary	1	2		
Pneumocystis jiroveci pneumonia (PCP)	1	2		
Pneumonia, recurrent, in 12-month period	1	2		
Progressive multifocal leukoencephalopathy	1	NA		
Salmonella septicemia, recurrent	1	NA		
Toxoplasmosis of brain	1	2		
Wasting syndrome due to HIV	1	NA		

Def. = definitive diagnosis *Pres. = presumptive diagnosis*

* RVCT case number:

If HIV tests were not positive or were not done, does this patient have an immunodeficiency that would disqualify him/her from the AIDS case definition? Yes [1] No [0] Unknown [9]

IX. Treatment/Services Referrals

	Yes	No	Unknown
Has the patient been informed of his/her HIV infection?.....	1	0	9

This patient's partner(s) has been or will be notified about their HIV exposure and counseled by:

[1] Health Department [2] Physician/Provider [3] Patient [9] Unknown

This patient is receiving or has been referred for:	Yes	No	NA	Unknown
• HIV-related medical services.....	1	0	-	9
• Substance abuse treatment services.....	1	0	8	9

This patient received or is receiving:	Yes	No	Unknown
• Antiretroviral therapy.....	1	0	9
• PCP prophylaxis.....	1	0	9

This patient has been enrolled at:

Clinical Trial	*Clinic*
[1] NIH-sponsored	[1] HRSA-sponsored
[2] Other	[2] Other
[3] None	[3] None
[9] Unknown	[9] Unknown

This patient's medical treatment is primarily reimbursed by:

[1] Medicaid [2] Private insurance/HMO
[3] No coverage [4] Other public funding
[7] Clinical trial/government program [9] Unknown

For women:

	Yes	No	Unknown
• This patient is receiving or has been referred for gynecological or obstetrical services.....	1	0	9
• This patient is currently pregnant.....	1	0	9
• This patient has delivered live born infant(s).....	1	0	9

(If yes, provide birth information below for the most recent birth.)

Child's date of birth Month Day Year	Hospital of birth / City	State	Child's Soundex	***Health Department Use Only*** Child's state patient number

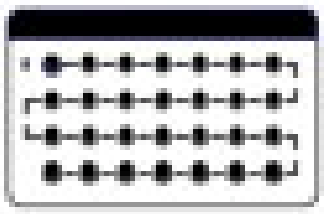
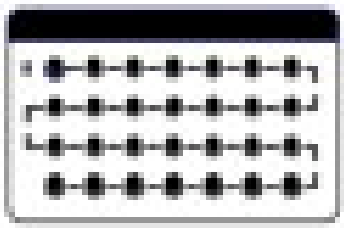
X. Comments

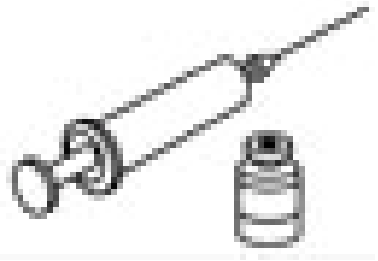
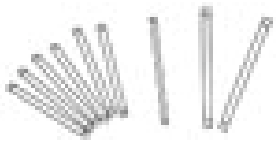
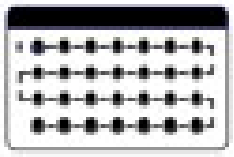
MAIL COMPLETED FORM MARKED "CONFIDENTIAL" TO THE HIV/AIDS SURVEILLANCE PROGRAM AT YOUR LOCAL HEALTH DEPARTMENT.
LHD contact information is available on the website: www.cdph.ca.gov/AIDS

Comparing Safe Sex & Contraceptive Methods

Providers can use the information in this table as they help women and men choose a contraceptive method. From an integration standpoint, this is important information to have available when clients have questions about how their own risk or risk reduction methods may impact their family planning methods and vice versa. Some important points to remember:

- The goal of contraceptive methods is to prevent pregnancy, and not necessarily, HIV or STIs. Except for male and female condoms, none of these methods helps to prevent transmission of STIs, including HIV.
- Contraception is a very important strategy for any person or couple actively planning for a family. The use of these methods may be important for couples to discuss and decide upon together, as the implications for family planning can affect both male and female partners, the families, and potentially the community.
- All methods are safe for people who are infected with HIV, have AIDS, or are taking anti retroviral medications, except as specifically noted.
- Dual method use—that is, using condoms and another method of contraception together—helps to protect against STIs and provides more protection against pregnancy than condom use alone.
- The majority of these methods, if not all of them, should be available at your IHS or urban Indian health clinic.
- Please consult with your provider to discuss which method best matches your family planning and HIV prevention needs.

Method	Details
Male and female condoms 	• The only method that helps protect against both pregnancy and STIs, including HIV. • Must be used correctly every time to be fully effective. • Maintaining consistent and correct use can be difficult. • Female condoms may be safely inserted into the vagina several hours before use. Male condoms are applied immediately before use. Both should be disposed off after use.
Combined oral contraceptives (COCs) 	• Not known if certain antiretroviral medications decrease effectiveness of COCs. In case they do, condoms provide extra contraceptive protection. • Taking pills every day, without missing pills, is particularly important to compensate for any possible decrease in effectiveness when on antiretroviral medications.
Progestin-only pills (POPs) 	• Not known if certain antiretroviral medications decrease effectiveness of POPs. In case they do, condoms provide extra contraceptive protection. • Particularly appropriate for women who are breastfeeding who want pills. Exclusive breastfeeding, which is the safer breastfeeding option to reduce risk of HIV transmission to the

	infant, provides additional protection against pregnancy. • For women who are not breastfeeding, taking pills every day, without missing a pill or pills, is particularly important in order to compensate for any possible decrease in effectiveness when on antiretroviral medications.
Progestin-only and combined injectable contraceptives 	• Not likely that antiretroviral medications reduce effectiveness of injectable contraceptives. Still, women using antiretroviral medications should be especially careful to return on time for injections. • Condoms could be used for additional protection from pregnancy, especially as the time of the next injection approaches or if a woman is late for her next injection. • It is not necessary to have the next injection early or to shorten the injection interval.
Implants 	• Not known if certain Antiretroviral medications decrease effectiveness of implants. In case they do, condoms provide extra contraceptive protection.
Emergency contraceptive pills (ECPs) 	• It is thought that Antiretroviral medications do not reduce the effectiveness of ECPs. • No evidence for increasing the ECP dosage for women on Antiretroviral medications .
Copper-bearing intrauterine device (IUD) and levonorgestrel intrauterine device 	• A woman who is at risk of HIV infection or who is infected with HIV can generally have an IUD inserted. • A woman who has AIDS, is taking Antiretroviral medications , and is clinically well can generally have an IUD inserted. • A woman should usually not have an IUD inserted if she has AIDS and is not taking Antiretroviral medications , or if she is taking Antiretroviral medications , but is not clinically well. • If a woman develops HIV or AIDS while she has an IUD in place, it generally does not need to be removed.

	• A woman who has gonorrhea or chlamydia should not have an IUD inserted. • IUD users with AIDS should be monitored for pelvic inflammatory disease.
Lactational amenorrhea method (LAM) 	• Women who are infected with HIV or who have AIDS and choose to breastfeed their infant can use LAM. • Exclusive breastfeeding (without introducing any other foods, liquids, or water) for the first six months of a baby's life is the safer breastfeeding pattern to minimize the risk of HIV transmission through breastmilk. This pattern of breastfeeding is compatible with LAM. • If a woman's monthly bleeding returns before six months, she will need another contraceptive method while continuing to breastfeed exclusively. • Women with HIV and their health care providers need to consider the infant feeding options available and to weigh their various risks and consequences.
Fertility awareness methods 	• Calendar-based fertility awareness methods rely on regular menstrual cycles. For women with advanced HIV (low CD4+ cell count), irregular cycles may be common and make these methods difficult to use. • For most people, fertility awareness methods are less effective than are other modern methods of contraception.
Spermicides 	• Women at high risk of HIV infection and who have very frequent intercourse should not use spermicides. Spremicides design to kill a male's sperm, however they irritate the vaginal wall. This irritation can increase the likelihood of becoming infected when exposed to HIV. • Women with HIV infection, including AIDS, should not use spermicides.
Diaphragm	• Diaphragms may help keep infectious organisms from reaching the cervix, however a recent study found that diaphragms do not protect against HIV infection (261). • Because diaphragms are used with spermicide, they are not generally recommended for women at high risk for HIV infection or women who are

	infected with HIV.

Taken From:
Information & Knowledge for Optimal Health Project
www.infoforhealth.org/pr/l15/table1.shtml