HIV/AIDS
Universal Precautions
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HIV/AIDS is perhaps one of the most feared and misunderstood diseases on the planet today. HIV/AIDS killed 3.1 million people in 2004, over half a million of those were children under the age of 15. Approximately 35 million people, worldwide, are living with HIV/AIDS today.

In North America and Western Europe, most HIV infections occur through injecting drugs with contaminated equipment, unprotected sex between men and unsafe commercial sex. The notion that those epidemics are confined to specific populations is fanciful, however. Very much like the notion that HIV was a “gay” disease in the 1980s.

A Brief (and very selective) Timeline of HIV/AIDS

- In 1978 gay men in the US and Sweden began showing symptoms of a disease that would come to be called AIDS.
- 1981 – Number of known deaths in the US in 1981 was 234.
- 1982 – The CDC links the new disease to blood and the term Acquired Immune Deficiency Syndrome (AIDS) is used for the first time. Number of known deaths in the US was 853.
- 1983 – The CDC warns blood banks of a possible problem with the blood supply. The Pasteur Institute (France) finds the HIV virus. Number of known deaths in the US was 2304.
- 1984 – Number of known deaths in the US was 4251 including Gaetan Dugas, believed to have been “Patient Zero”.
- 1985 – The FDA approves the first HIV antibody test. Number of known deaths in the US was 5636, including film star Rock Hudson.
- 1987 – A family in Florida with three Hemophiliac HIV Positive sons is driven from their home after it is set afire by an arsonist.
- 1989 – Haiti stops distribution of tainted blood products. Number of known deaths in the US was 14,544.
- 1991 – Basketball star Magic Johnson publicly announces that he has the disease. Number of known deaths in the US during 1991 was 20,454.
1993 - CDC revises its definition of AIDS including new opportunistic infections. Number of known deaths in the US during 1993 including tennis star Arthur Ashe and ballet dancer Rudolph Nureyev, rose to 45,271.


MYTHS versus REALITY

MYTH: HIV or AIDS can be cured.
REALITY: To date, there is no cure for HIV or AIDS and there are no vaccines to prevent HIV infection. The best preventative for HIV infection is to avoid exchanging body fluids through IV needle sharing, unprotected sex.

MYTH: You can get HIV from breathing the air around an HIV-infected person or from hugging or holding hands with an HIV-infected person.
REALITY: HIV cannot be transmitted through:
• Toilet seats or doorknob handles
• Touching, hugging, holding hands, or cheek kissing with an HIV-infected person
• Sharing eating utensils with an HIV-infected person.
• Mosquito bites.

HIV is transmitted through contact with an HIV-positive person’s infected body fluids, such as semen, pre-ejaculate fluid, vaginal fluids, and blood or breast milk. HIV can also be transmitted through needles contaminated with HIV-infected blood, including needles used for injecting drugs, tattooing or body piercing.

MYTH: Since I only have oral sex, I’m not at risk for HIV/AIDS.
REALITY: You can get HIV by having oral sex with a man or a woman.

MYTH: I would know if a loved one or I had HIV.
REALITY: A person with HIV may not show any symptoms for up to 10 years. Since HIV affects each person differently, many people with HIV can look and feel healthy for years. The only sure way to know is to get tested.

MYTH: When you’re on HIV therapy you can’t transmit the virus to anyone else.
REALITY: Antiretroviral drugs don’t keep you from passing the virus to others. Therapy can keep the viral load down to undetectable levels, but HIV is still present in the body and can still be transmitted to others.
How AIDS Works

AIDS is one of the worst pandemics the world has ever known. The flu pandemic of 1918 killed approximately 20 million people worldwide. World War II killed approximately 40 million people. Since the HIV virus was discovered in 1981 it has swept across the globe infecting millions in a relatively short period of time. AIDS has killed 28.1 million people that we know of with 3 million dying in the 2002 alone.

To understand how HIV infects the body, let’s first look at the virus’ basic structure.

- **Viral Envelope** – This is the outer coat of the virus. It is composed of two layers of fatty molecules called lipids. Embedded in the viral envelop are proteins from the host cell. There are also about 72 copies of Envelope protein, which protrudes from the envelope surface. Envelope consists of a cap made of three or four molecules called glycoprotein 120 and a stem consisting of three or four gp41 molecules.

- **P17 protein** – the HIV matrix protein that lies between the envelope and core.

- **Viral Core** – Inside the envelope is the core, which contains 2,000 copies of the viral protein p24. These proteins surround two single strands of HIV RNA, each containing a copy of the virus’s nine genes. Three of these genes contain information needed to make structural proteins for new virions.

HIV is a retrovirus, which means it has genes composed of RNA molecules. Like all viruses HIV replicates inside the host cells. It’s considered a retrovirus because it uses an enzyme, reverse transcriptase, to convert RNA to DNA.

Once the HIV virus enters the body, it heads for the lymphoid tissues, where it finds T-helper cells. The HIV attaches to the immune cell where the glycoprotein 120 of the HIV virus binds with the CD4 protein of the T-Helper cell. The viral core enters the T-helper cell and the virion’s protein membrane fuse with the cell wall. The viral Enzyme, reverse transcriptase, copies the virus’s RNA into DNA. The newly created DNA is carried into the cell’s nucleus by the enzyme, viral integrase, and it binds with the cell’s DNA. HIV DNA is called a provirus.

The viral DNA in the nucleus separates and creates messenger RNA (mRNA), using the cell’s own enzymes. The mRNA contains the instructions for making new viral proteins. The mRNA then uses the cell’s natural protein-making mechanisms to make long chains of viral proteins and enzymes. RNA and viral enzymes gather at the edge of the cell. An enzyme called protease, cuts the polypeptides into viral proteins and the new HIV virus particles pinch out from the cell membrane and break away with a piece of the cell membrane surrounding them.

The newly replicated virions will infect other T-helper cells and cause the person’s T-helper cell count to slowly dwindle. When a person’s T-helper cell count drops below 200,000 cells per one millimeter of blood, he or she is considered to have AIDS.
No one dies from AIDS or HIV specifically. Instead, an AIDS-infected person dies from infections, because his or her immune system has been dissipated. An AIDS patient could die form the common cold as easily as he or she could from cancer.

**Unique Features of HIV**

AIDS has been able to infect and kill so many people because of its unique makeup. Let’s look at some of the features that make this disease so unusual:

- HIV spreads by intimate contact with an infected person. Forms of intimate contact that can transmit AIDS include sexual activity and any sort of situation that allows blood from one person to enter another. Especially when you compare it with the many viruses that spread through the air, it would seem like the intimacy involved in the transmission of AIDS would be a limiting factor.

- A person can carry and transmit the HIV virus for many years before any symptoms show. A person can be contagious for a decade or more before any visible signs of disease become apparent. In a decade, a promiscuous HIV carrier can potentially infect dozens of people, who each can infect dozens of people and so on.

- HIV invades the cells of our immune system and reprograms the cells to become HIV-producing factories. Slowly, the number of immune cells in the body dwindles and AIDS develops. Once AIDS manifests, a person is susceptible to many different infections, because the immune system has been weakened so much by the HIV it can no longer fight back effectively. HIV has also shown the ability to mutate, which makes treating the virus nearly impossible.

The last feature in this list is the one that is truly unique. HIV invades and destroys the immune system – the system that would normally protect the body from a virus. HIV corrupts and disables the system that should be guarding against HIV.

**HIV/AIDS and Massage**

As massage therapists we pose a greater risk to HIV/AIDS affected clients than they do to us. It is nearly impossible for a massage therapist, practicing simple, common-sense universal precautions to become infected by HIV from a client. It is deceptively easy for a massage therapist who is fighting the common cold, or has been exposed to the chicken pox by their seven year old, to pass that virus onto the HIV/AIDS affected client and overwhelm their already compromised immune system. However, many HIV/AIDS affected people benefit tremendously from massage.

HIV/AIDS affected people are a population who has been systematically deprived of touch because of both society’s stigma and the medical community’s need to prevent further spread of the disease they are fighting. Consider for a few moments the kinds of losses that HIV/AIDS affected people have experienced. They have lost their sense of themselves as their bodies betray them, most likely they have lost loved-ones from the same disease that is now affecting them.
They have lost their sense of independence, their sense of contact with the world, connection with their communities as they enter into hospices. Some of them have lost control of their bodies and minds if the disease has affected their nervous system and brain.

HIV/AIDS affected people are a population who desperately need the comfort and contact that massage therapy can bring. Massage therapy can bring relief from pain, a connection to another human being, the simple comfort of touch. Touch can help to bring these people back into their bodies, into their communities and into themselves again. Some studies are also beginning to suggest that massage can help to stimulate the flagging immune system of an HIV positive client.

Because clients who are HIV positive may not disclose this information to their massage therapist it is important to treat all clients as if they are HIV positive. Treating all clients as if they are HIV positive is called using Universal Precautions. Universal Precautions were created by the medical community to prevent the unintentional exposure of medical personnel to infected blood and body fluids. Simply put, Universal precautions are infection control guidelines designed to protect workers from exposure to diseases spread by blood and certain body fluids. The following are examples of Universal Precautions currently in use in massage therapy:

- Washing hands between each client
- Changing linens between each client
- Keeping clean linens separated from soiled linens.
- Washing soiled linens in hot water and drying in a dryer on “high”
- Washing soiled linens with ¼ cup of bleach should any body fluids be present

By following those simple, common-sense techniques that seem to be “good hygiene” and are actually Universal Precautions, a massage therapist is able to ensure that they will not be inadvertently exposed, or inadvertently expose a client to viruses from HIV and Hepatitis to the flu.

Another common-sense approach to Universal Precautions involves skin. HIV cannot be transmitted by casual contact when both client and therapist have intact skin. If you have a cut on your hand cover it with a glove or finger cot. If the client has cuts, abrasions, broken skin of any kind do not touch it. If it is wet do not touch it. Avoid the area and continue with the massage, unless the area is weeping. Then you should wash the area around the wound with soap and water to prevent the possibility that you might accidentally touch body fluids that have seeped and then dried.

Because Universal Precautions is “universal” it means that each and every client should be treated with the same precautions. Should you feel that you need to wear gloves to work with a client who is HIV positive than you should be wearing gloves to work with each and every client.

It cannot be stressed enough that it is virtually impossible for a massage therapist practicing simple good hygiene with their clients to contract HIV/AIDS from a client. HIV positive clients benefit greatly from massage, and notice a definite change in their quality of life after receiving massage.