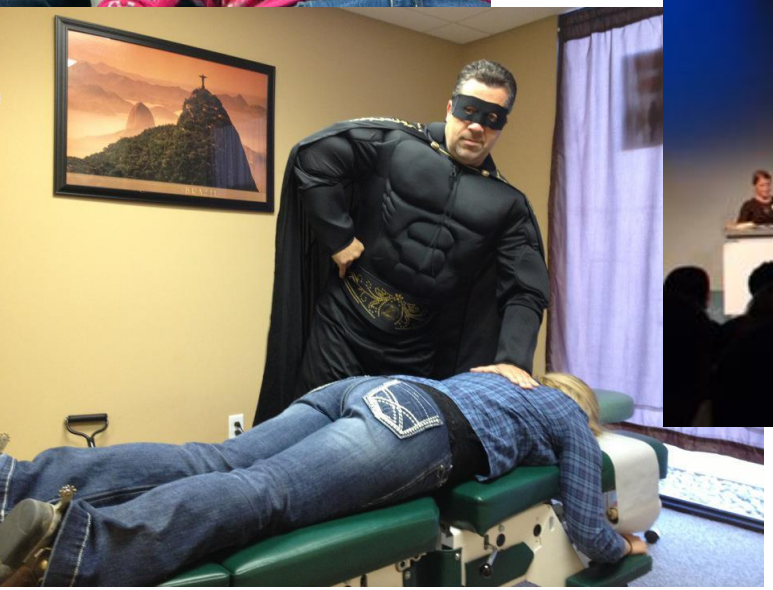
Communicable Diseases

HIV/Aids Part 1

Introduction: Dr. Bryan Hawley DC



Housekeeping

- Questions
- info@drbryanhawley.com
- Session 1 HIV/Aids (1 CEs)
- 1 CEs NCBTMB approved provider #485

Before we begin… Let's chat a moment

With the wide prevalence of individuals living with the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS), it is essential for massage therapists to understand the etiology, pathogenesis and treatment trends of the disease.

It is likely that a person living with HIV/AIDS is, or at some point will be, under a massage therapist's care. The importance of understanding HIV/AIDS in massage therapy practice is reiterated by its inclusion in the curriculum for continuing education and maintenance of a license.

Data recently presented at the National HIV Prevention Conference in Atlanta, Ga., reports that more than 1 million Americans currently are infected with HIV. Each year, 40,000 new cases are diagnosed in the U.S. alone. A person infected with HIV does not always transition to the AIDS phase.

HIV and AIDS Explained

HIV stands for **Human Immunodeficiency Virus**. This is the virus that causes AIDS. HIV is unique from most viruses because it attacks your immune system.

This virus attacks white blood cells. As the virus takes over white blood cells, immunity weakens. A normal white blood cell count within the body ranges from 4,500 to 11,000 white blood cells per microliter of blood; however, this number begins dropping significantly upon HIV's manifestation within the body.
AIDS is the final stage of HIV progression. At this point, one's white blood cell count will drop below 200 white blood cells per microliter of blood.

The body's immune system has weakened to a point in which a simple pathogen a healthy individual can easily fend off can likely kill an AIDS patient.

Can Massage Help?

Massage therapists play a role in the lives of those infected with HIV and AIDS by complementing the patient's medical team.

Massage therapy plays a vital role in helping patients cope with the various symptoms of HIV/AIDS and indirectly boosts the immune system at the same time.

The factors that seemed to contribute to immune enhancement were pressure strokes, dosage and period of massage therapy. A single massage dose on a healthy person indicated substantial increases in the NKCA (Natural killer cell activity)

Massage and Research

Ironson and Field conducted a study in 1996 on the effect of massage therapy on the immune system. This study was performed on 23 HIV-positive and 10 HIV-negative men. The men received a month of daily 45-minute massages and alternately a month without massage. The massage group showed significant *increases in natural killer* (NK) cell cytotoxicity ($p<0.01$), cytotoxic T-cells ($p<0.05$), and relaxation levels, and significant decreases in urinary cortisol and states of anxiety ($p<0.01$). NK cells have shown to be highly protective in HIV-positive patients, thus massage therapy could prove significant.

1.Ironson G, Field T, Scafidi F, Kumar M, Patarca R, Price A, Goncalves A, Hashimoto M, Kumar A, Burman I, Tetenman C, Fletcher MA. Massage therapy is associated with enhancement of the immune systems cytotoxic capacity. *International Journal of Neuroscience*, 1996;84:205-218.

Seventy three HIV-positive men were studied by Antoni, et al., to determine how cognitive-behavioral stress management (including massage therapy) affected anxiety, T-cytotoxic/suppressor cells and 24-hour urinary norepinephrine output. The results showed significant reduction in anxiety, anger, total mood disturbance and perceived stress, and lowered norepinephrine output. *Even after six to 12 months*, *there was a significant increase in T-cytotoxic/suppressor (CD4+CD8+) lymphocytes*

1.Antoni MH, Curess DG, Curess S, Lutgendorf S, Kumar M, Ironson G, Klimas N, Fletcher MA, Schneiderman N. Cognitive-behavioral stress management intervention effects on anxiety, 24-hr urinary norepinephrine output, and t-cytotoxic/suppressor cells over time among symptomatic HIV-infected gay men. *Journal of Consulting & Clinical Psychology*, 2000;68(1):31-45.

Benefits of Massage for HIV/AIDS Patients

Among the goals that can be achieved for the HIV/AIDS patient include facilitating the removal of excess phlegm to relieve respiratory congestion, increasing blood and lymph flow to assist in metabolic waste removal and blood cell regeneration, preventing muscular atrophy due to inactivity, reducing postsurgical scar tissue and boosting the immune system. Not to mention the other benefits as discussed with the research on previous slides.

Keep in mind however

Consider how taxing the massage may potentially be for the client. *A lighter relaxing touch may be necessary for patients suffering the ill effects of chronic stress and anxiety.*

Relieving pain may become a major component of each session, yet remember that deeper modalities can tax the body's systems, taking the patient days to recover.

Stigma

The stigma surrounding AIDS can impart many negative effects on the mind and body. Unfortunately, one of the first reactions of friends and family to a diagnosis of HIV is a reluctance to touch the person.

People living with this disease are typically viewed by some people as ‘untouchable’ members of society, furthering feelings of isolation and depression.

Due to this stigma, the hands-on intimacy of massage therapy provides a great psychological benefit to a client with HIV.

To glove or not to Glove?

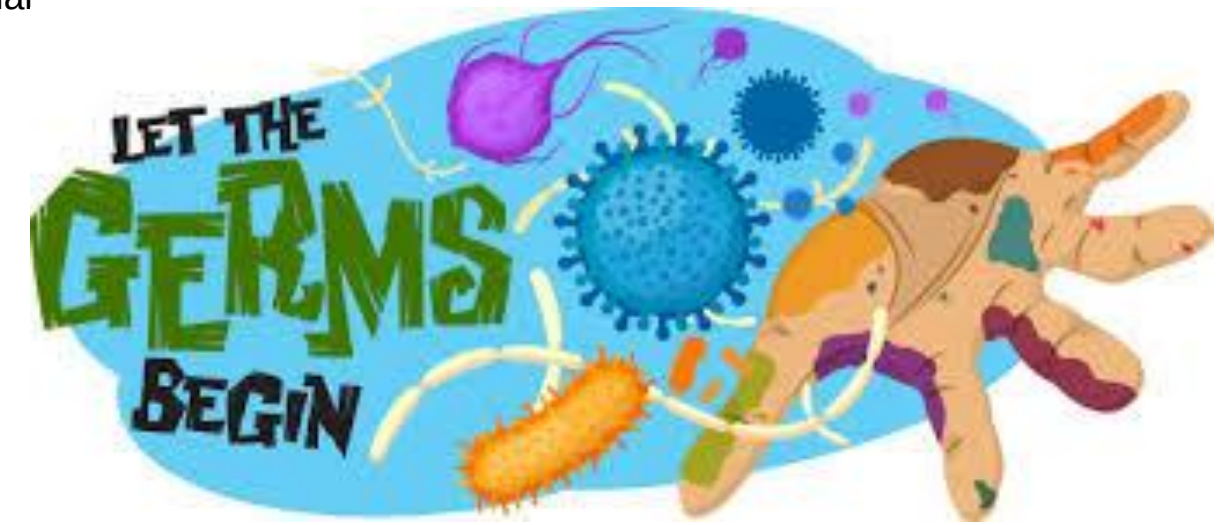
Massage Therapy and Gloves

Using gloves to massage an HIV/AIDS patient is the preference of the caregiver and patient. *There is no evidence showing a positive correlation between the transmission of HIV/AIDS and touching or therapeutic massage.* In conversations with individuals living with HIV/AIDS, it was unanimously expressed that the use of gloves by a therapist was negative. HIV and AIDS patients routinely are victims of discrimination. Despite years of health education, the disease continues to be misunderstood. Is it paranoia?

You can cause more harm

According to the CDC (1), "People living with AIDS can get very sick from common germs and infections. Hugging, holding hands, giving massages, and many other types of touching are safe for you, and needed by the person with AIDS. But you have to be careful not to spread germs that can hurt the person you are caring for."[9] If you feel you must use gloves because of the presence of blood, it is recommended you inform the patient and get his or her consent prior to therapy. The safest gloves are latex and vinyl.

1.Giving Care. Centers for Disease Control and Prevention, National Center for HIV, STD and TB Prevention. **www.cdc.gov/hiv/pubs/brochure/care4.htm**.



A couple checklist guidelines to get you started

Below are some general guidelines massage therapists can follow when working with HIV/AIDS patients:

•Be educated about the disease.

•Perform a patient history.

•Survey the patient to ascertain there are no cuts, open wounds or bleeding.

•Survey your hands to ascertain there are no cuts, open wounds or bleeding.

•Keep your nails short so they don't accidentally scratch the patient.

•Wash your hands thoroughly with warm water and soap before and after massage.

What is the difference between HIV and Aids?

H -uman

A retrovirus found only in humans
Transmitted among humans
Preventable by humans

I -mmunodefiency

Body lacks ability to fight off infections

V -irus

Type of germ
Lives and reproduces in body cells

A **-cquired;** received, not inherited (does not run in families)

I -**mmuno;** protected from (in this case the system protects the body from disease)

D -**eficiency, -** a lack of white blood cells

S-**yndrome;** – a group of symptoms or diseases

Types of HIV Virus

HIV-1 vs HIV-2

HIV-1	HIV-2
This strain is found worldwide and is more common.	This strain is found predominantly in West Africa.
This strain is more likely to progress and worsen.	This strain is less likely to progress and many of those infected remain lifelong non-progressors. Progression is slower.
Average level of immune system activation are higher.	Average level of immune system activation are lower.
During progression, HIV-1 has lower CD4 counts than HIV-2.	During progression, CD4 counts are higher in this strain.
Plasma viral loads are higher.	Plasma viral loads are lower.

HIV vs. AIDS

HIV is the virus that causes AIDS
Not everyone who is infected with HIV has AIDS
Everyone with AIDS is infected with HIV
AIDS is result of the progression of HIV Infection
Anyone infected with HIV, although healthy, can still transmit the virus to another person

You CANNOT get HIV by contact with …

- **Tears**
- **Saliva**
- **Sweat**
- **Urine**

- **Or simply touching**

of an HIV infected person

STI vs HIV – The difference

A sexually transmitted infection (**STI**) is an infection you can get by having sex. Some **STIs** (such as gonorrhea and chlamydia) infect your sexual and reproductive organs. Others (such as HIV, hepatitis B, and syphilis) cause general body infections. **STIs** used to be called VDs, or venereal diseases.

- You can get an STI by having sex without a condom, with an infected person.
- At the same time, you could be getting HIV which is also contracted by having unprotected sex.

ALL STIs are Preventable

Most STI's are treatable
But

HIV/AIDS CANNOT BE CURED

Early Signs & Symptoms of HIV

- Fever
- Fatigue
- Night Sweats
- Loss of Appetite
- Diarrhea
- Swollen Lymph Glands

Remember these are symptoms of many other illnesses.

- You **CANNOT tell by looking** if someone has HIV.

- An individual can look and feel well for many years and be HIV positive.

- The HIV positive person can pass the virus on to someone else.

Prevention tips

- Talk with partner about HIV
- Use a condom with your regular and non-regular clients, and partners every time you have sex
- Reduce the number of main partners
- Get tested. Know your status
- Use exposure precautions (sharps etc.)
- #1 is to be educated and informed

HIV and your Immune System

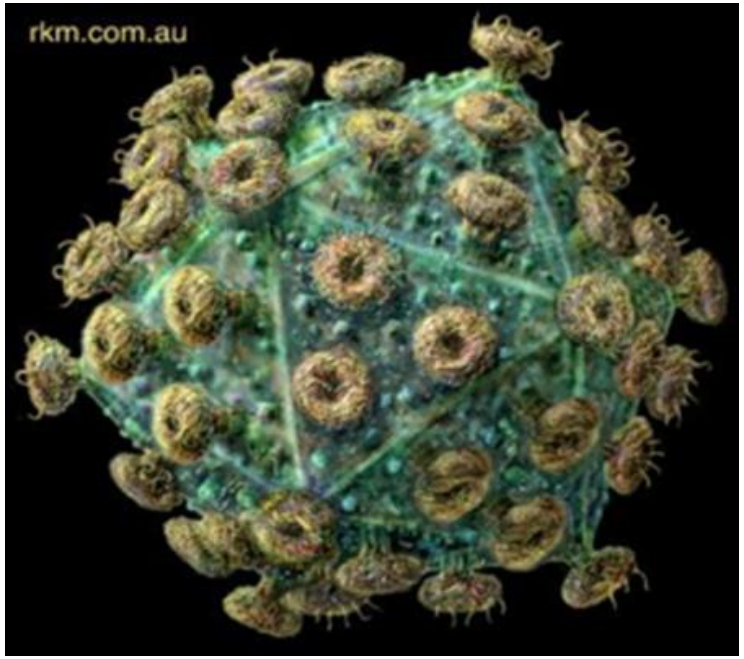
The CD4 cells coordinate a body's immune response to an invader (bacteria, virus, etc.)

BUT, when HIV enters CD4 cells for reproduction, it damages the CD4 cell, eventually killing it.

The body's immune system works hard making more CD4 cells

Overtime, HIV destroys the CD4 cells faster than the immune system can make new ones

So, HIV damages the very system that usually protects the body from infection.



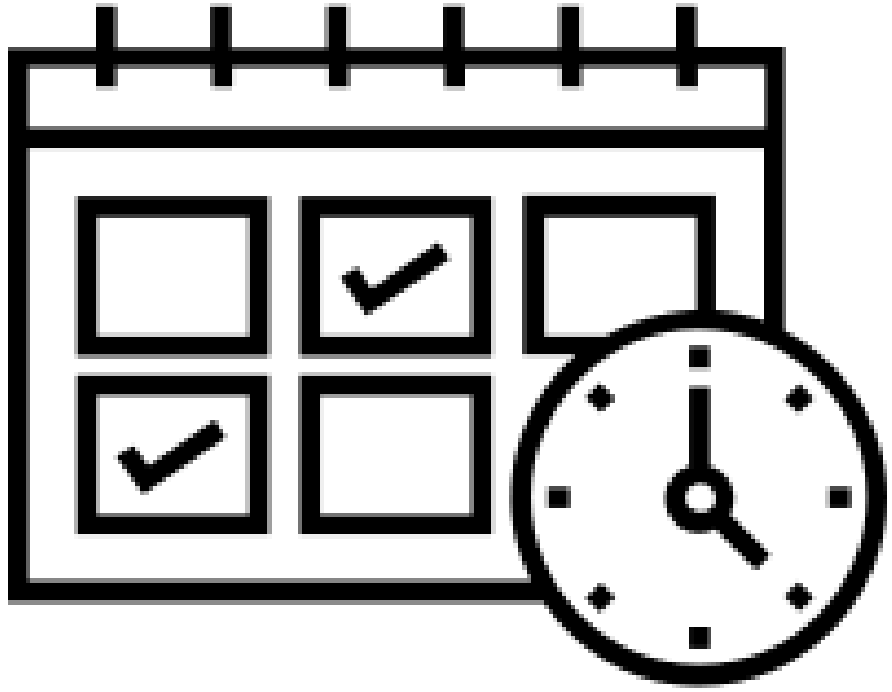
Window of infection Period

When a person gets infected it may take **6 weeks or up to 3 months** before antibodies to HIV are detected in the blood

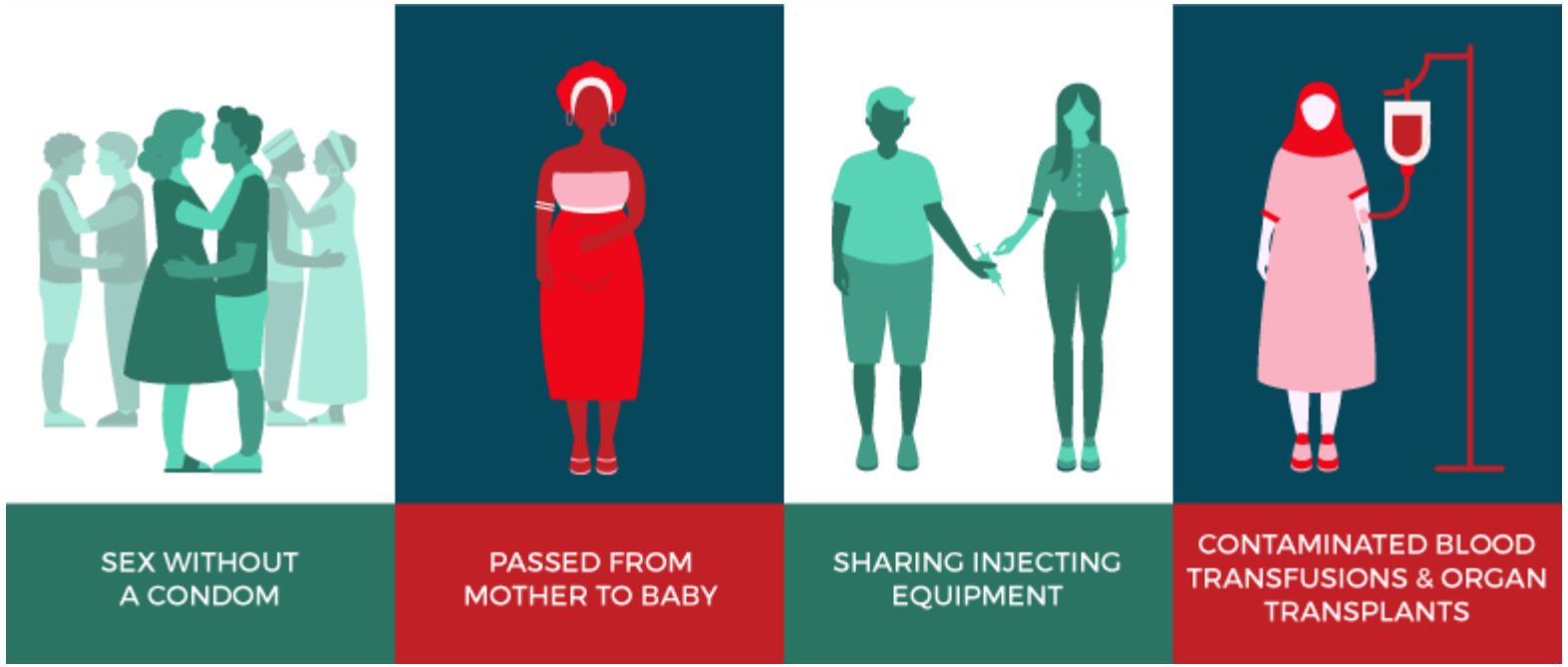
The HIV test looks for antibodies. When these antibodies are detected the person is diagnosed HIV positive

A person can be positive and the test shows negative because the test was done during the window period

"So getting tested a week after possible exposure doesn't do any good"



HIV Transmission



HIV is transmitted when blood, semen, vaginal secretions, or breast milk comes into contact with a mucous membrane, damaged tissue, or is injected into the body.
Methods of transmission include vaginal, anal, or oral sex, breast milk, or contaminated needles commonly through IV drug use.

Centers for Disease Control and Prevention. (2010, March 25). HIV transmission. Retrieved from http://www.cdc.gov/hiv/resources/qa/transmission.htm

HIV Transmission

As health professionals, it is important to provide HIV education to patients and clients in order to decrease the stigma of the infection. Reinforce with patients that HIV is not transmitted by casual contact

HIV is NOT transmitted by casual contact

- Working or playing with an HIV positive person
- Closed mouth kissing
- Shaking hands
- Public pools
- Hugging
- Public toilet
- Massage

HIV is not transmitted by air, food, or mosquito and does not survive long outside the body.

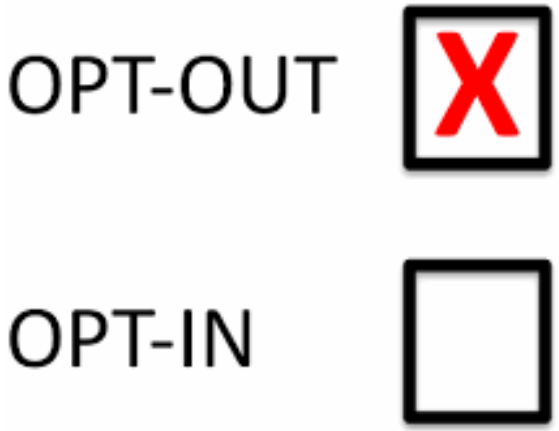
Centers for Disease Control and Prevention. (2010, March 25). HIV transmission. Retrieved from http://www.cdc.gov/hiv/resources/qa/transmission.htm

HIV Testing

- CDC recommends **routine** HIV testing for ALL patients:
  - •Aged 13-64
  - •Initiating TB treatment
  - •Seeking treatment for STI's
  - •Who are pregnant
- Repeat Screening Recommended
  - •Annually people at high risk
  - •Before beginning a new sexual relationship
  - •When clinically indicated
  - •After an occupational exposure

Centers for Disease Control and Prevention. (2006). Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health care settings. MMWR, 55 (No. RR-14), 1-17.

HIV ‘opt-out’ vs ‘opt-in’ Testing



In many healthcare settings, people are offered an HIV test on an '**opt-out**' basis. This simply means that the healthcare worker suggests that it would be good idea to take a test, and that it will be carried out unless the patient asks for it not to be done.
The healthcare provider could, for example, say: “We offer HIV testing to everyone at this clinic. We’ll test you unless you say no.”
Patients can refuse consent for an HIV test, just as they can for other investigations and treatments.
An **'opt-in'** test simply means that patients need to specifically ask to have an HIV test themselves. Nonetheless healthcare workers may still discuss the benefits of testing, or make patients aware that tests are available.

The CDC believes that opt-out screening for HIV:
- Increase the number of people who are aware of their HIV infection
- Identify HIV infections earlier reducing HIV related morbidity and mortality
- Reduce mother to child HIV transmission
- Reduce stigma associated with HIV testing
- Enable those who are infected to take steps to protect the health of their partners

Antiretroviral Therapy

- Recommended for all HIV-positive people
  - To prevent disease progression
  - To prevent transmission of infections
- Strength of recommendation based on
  - CD4 count
  - Transmission risk

- See *Guidelines for the Use of Antiretroviral Agents in HIV-1 Infected Adults and Adolescents* available at http://www.aidsinfo.nih.gov/ for more info

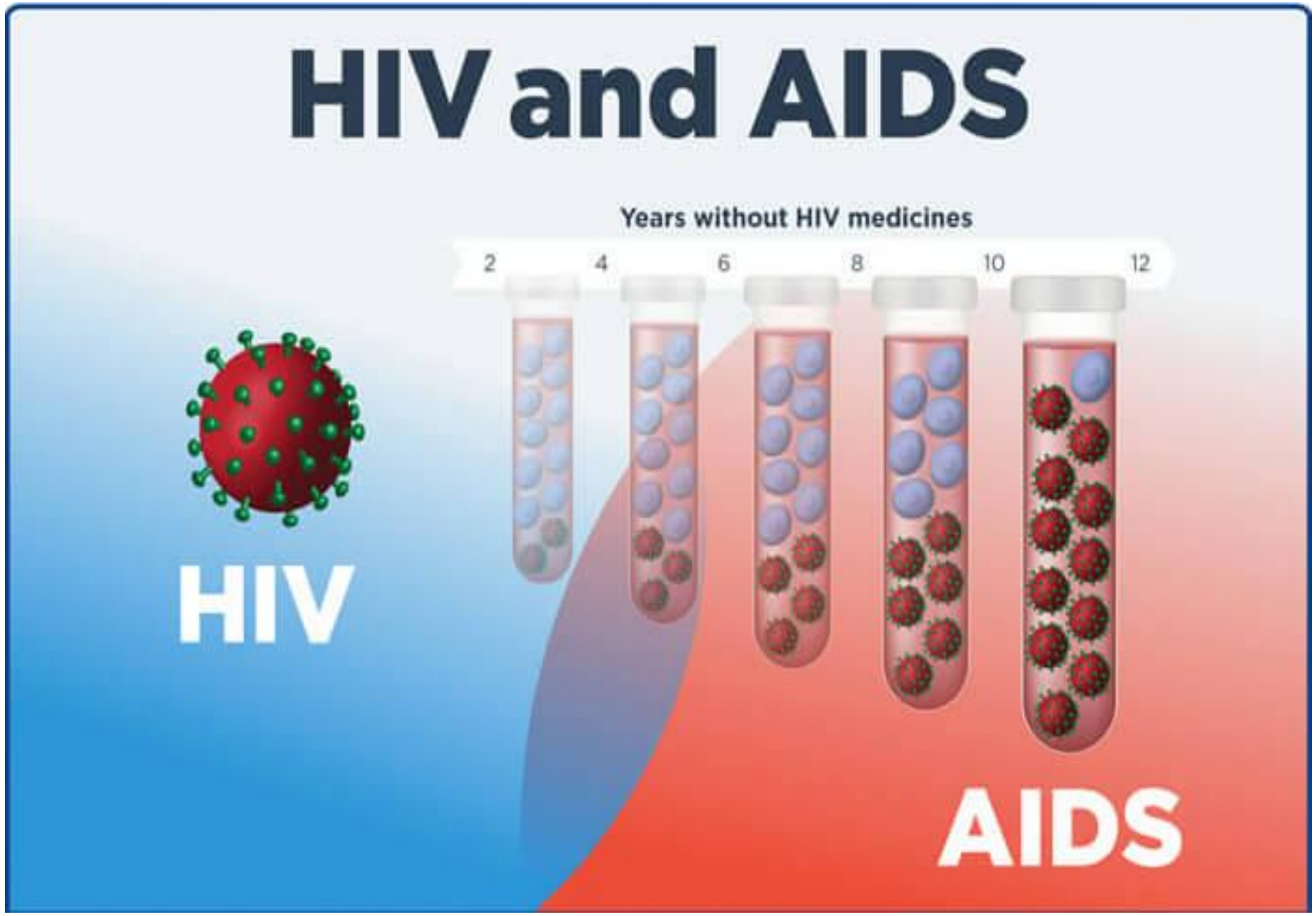
HIV Laboratory Tests – CD4 Count

- CD4 count –measures state of a person's immune function
  - Adult values are approximately 500-1300
  - Used to determine stage of HIV progression
  - Determines risk of opportunistic infection
  - Historically guided decisions about antiretroviral therapy (ART)

CD4 counts measure the number of CD4 cells per microliter of blood and are monitored in order to gain information about a patient's state of current immune function, as well as predict future disease progression. CD4 counts are the main tool in the decision to initiate antiretroviral therapy, and are used to guide the clinical management for opportunistic infection. CD4 counts can be helpful in monitoring the success of antiretroviral therapy, however viral load is the most important test when assessing ART efficacy. CD4 percentages are also used in the clinical setting and generally do not reflect transient fluctuations in CD4 counts.

Disease Progression

Severity of illness is determined by amount of virus in the body (increasing viral load) and the degree of immune suppression (decreasing CD4+ counts) As the CD4 count declines, the immune function decreases.



CD4

CD4= **referred to as CD4 cells**, T-helper **cells** or T4**cells**. They are **called** helper **cells** because one of their main roles is to send signals to other types of immune **cells**, including **CD8** killer **cells**, which then destroy the infectious particle.

AIDS is characterized by certain infections that take advantage of the body's weakened immune system.
A diagnosis of AIDS is made when an HIV positive patient has a CD4 count of less that 200 or 14% or the patient is diagnosed with an AIDS defining condition
Progression from initial infection with HIV to advanced HIV/AIDS varies among people and can take several months to up to 10 years or more.

WHO HIV/AIDS Classification System

Stage I

Asymptomatic

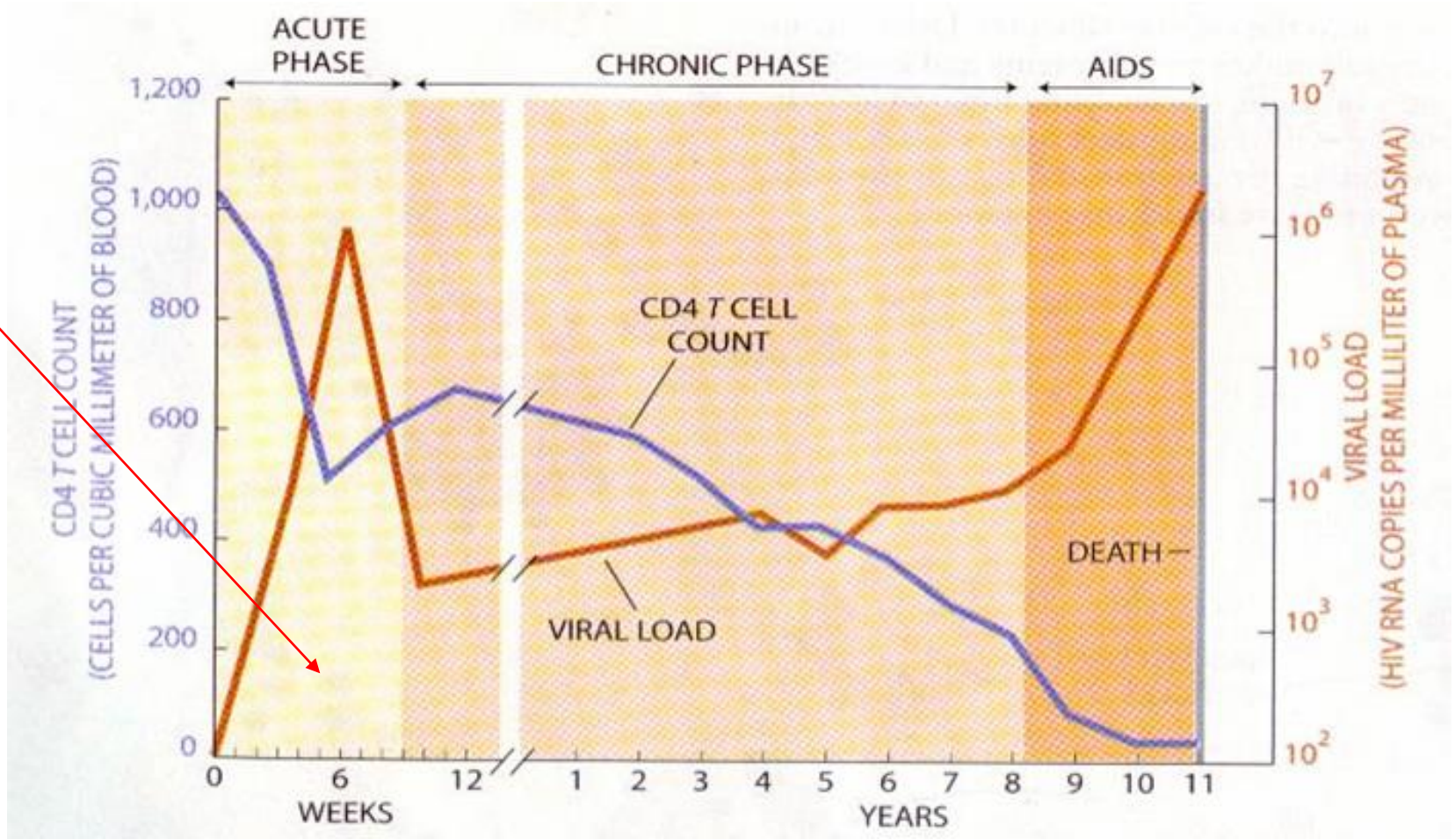
Stage II
Minor Symptoms

Stage III
Moderate
Symptoms

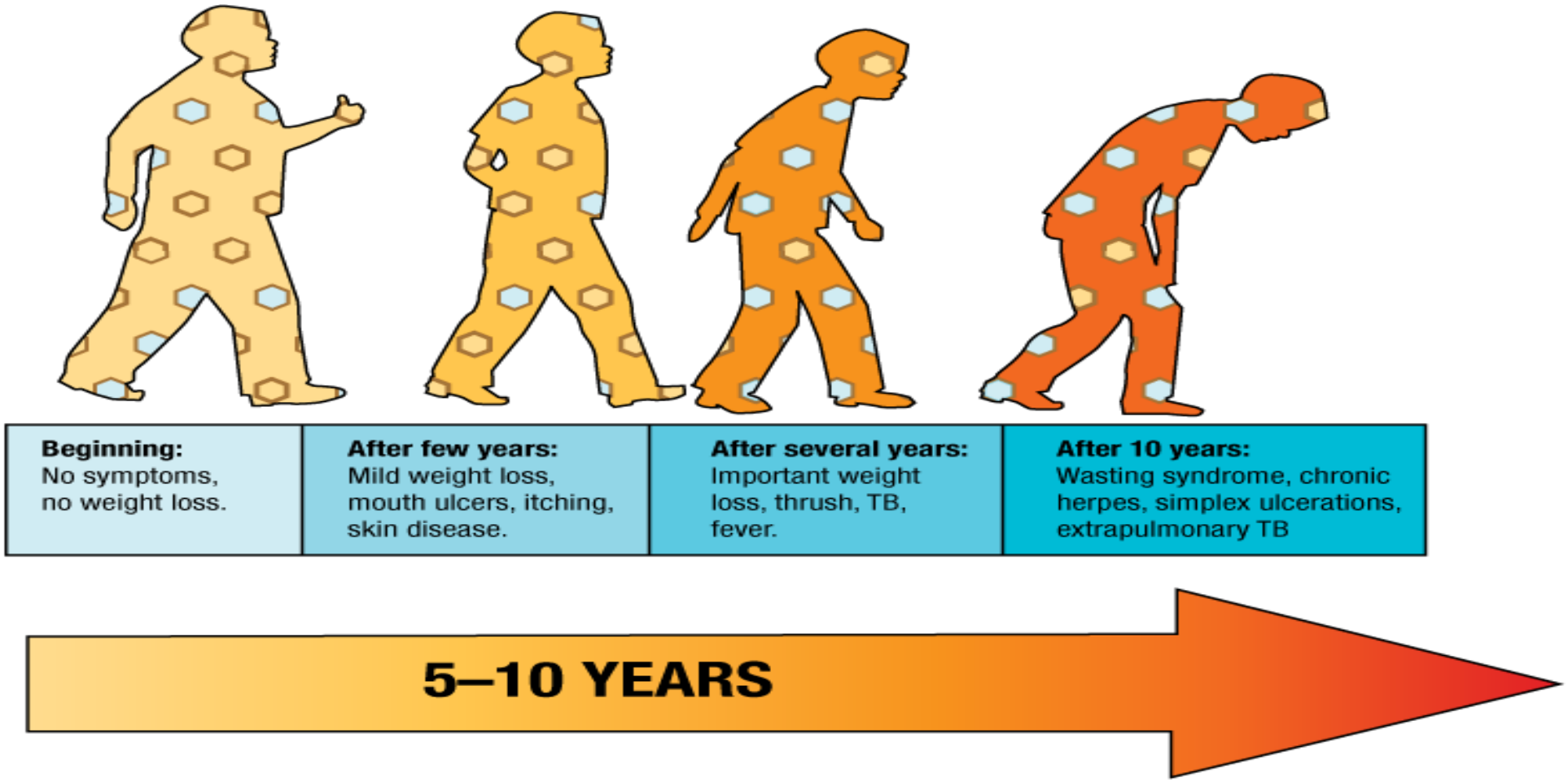
Stage IV

AIDS

Little to no symptoms



Clinical Progression



Clinical Progression to Aids

Clinical symptoms will begin to develop at the end of this period as CD4 count falls and viral load increases.
AIDS is the advanced stage of HIV infection. This is usually when your CD4 T-cell number drops below 200. You can also be diagnosed with AIDS if you have an "AIDS defining illness" such as Kaposi's sarcoma (a form of skin cancer) or pneumocystis pneumonia (a lung disease).

People with AIDS who don't take medication only survive about 3 years, even less if they get a dangerous infection. But with the right treatment and a healthy lifestyle, you can live a long time.

Opportunistic Infections

- Opportunistic infections are infections that take advantage of a weakened immune system to cause more frequent or severe illness
  - •CDC identifies 29 infections
  - •Prophylactic drugs may be given to prevent illness for some conditions
  - •Other clinical options include
    - •Vaccination
    - •Avoiding exposure to certain pathogens
    - •Disease treatment
    - •Preventing disease recurrence (secondary prophylaxis or chronic maintenance therapy)

Possible treatment options?

Antiretroviral treatment (also known as antiretroviral therapy or ART) are the drugs that treat HIV. Many people living with HIV are taking treatment and staying healthy as a result. Current treatment for HIV is not a cure for HIV, but it can keep HIV under control very effectively.

- ART = Anti Retroviral Therapy
- ARV = Anti Retro Virals
- HAART = Highly Active Anti Retroviral Therapy
- Triple Therapy = Three Antiretrovirals
- “The Cocktail”

It is now recommended that people living with HIV start antiretroviral treatment straight away. This is being implemented in an increasing number of countries. In some places, the decision about when to start treatment is still dependent upon a CD4 count test, which looks at how many CD4 cells are in a small amount of blood.

Basic Facts about ARVs

- ARVs are divided into classes, each of which attacks HIV in a different way.
- New classes becoming available through clinical trials.

- Always use 3 or more different ARV medications for therapy.
- Regimen should be selected by an experienced HCW.
- Other medications interact with ARVs.

Goals of ARV Treatment

Antiretroviral treatment (also known as antiretroviral therapy or ART) are the drugs that treat HIV. Many people living with HIV are taking treatment and staying healthy as a result. Current treatment for HIV is not a cure for HIV, but it can keep HIV under control very effectively.

- Improve quality of life
- Reduce HIV-related morbidity and mortality
- Restore and/or preserve immunologic function
- Maximally and durably suppress HIV viral load
- Prevent HIV transmission

Treatment success

A patient's ability to follow a prescribed treatment regimen
Major factor in success of drug regimen
Significant determinant of survival
Willingness to start treatment and take medications exactly as directed
Level of adherence affects how well ART decreases the HIV viral load
Average US ART adherence rate is about 70%

Factors associated with poor adherence

- Depression
- Active alcohol or drug use
- Low literacy
- Lack of social support (unstable social situation, chaotic lifestyle)
- Lack of support from partner
- Advance HIV infection
- Young age
- Disbelief in treatment efficacy
- Unstable housing
- Cognitive impairment
- Competing priorities
    - Childcare, food and work

Tips for Working with HIV Clients

Some general guidelines for massage therapists to follow when working with HIV/AIDS patients include:

1.Being educated about HIV's etiology and pathology
2.Performing a thorough client history
3.Surveying the client to ascertain there are no cuts, open wounds or bleeding
4.Surveying your hands to ascertain there are no cuts, open wounds or bleeding
5.Keeping your nails short so they don't accidentally scratch the client
6.Washing your hands thoroughly with warm water and soap before and after massage
7.Rescheduling with an HIV client if you are sick, since their immune system is extra vulnerable to catching your own illness
8.Refraining from direct pressure on any open lesion, inflamed area or on a client with a circulatory system infection. Instead, choose point specific massage and avoid the affected area. Energy work can be used in cases of bacterial infection and fever.
9.Monitoring your client for dizziness, nausea or lightheadedness, as they may be experiencing a large toxin release. In this case, gentler work, shorter sessions and increasing hydration will serve the client.

Housekeeping

- Email test answers to
- info@drbryanhawley.com
- HIV/AIDS

- 1 CEs NCBTMB approved provider #485