

HIV & AIDS - A Primer for Professionals

One-Hour, Home-Study Course

J David Wood BSJ, LDO © 2015-2024

CEDO, Inc PO BOX 46486

Tampa, FL 33646-0105

352-278-1277

I Introduction:

As required by the Florida Department of Health and the Florida Board of Opticianry each biennium, all newly licensed Florida Opticians must complete a one-hour course that covers HIV and AIDS for first year renewal. All other Opticians may take this course as an elective. This course will meet that requirement by providing information concerning HIV and AIDS with regard to their history, misconceptions, transmission, prevention, and specific ocular and optical considerations. Included are many applications of prevention which apply to many Professionals including other Boards of regulation.

II Course Objectives:

Upon completion of this course, with regard to HIV-AIDS, a participant should be able to:

- Discuss the origin of and be familiar with several landmark developments
- Know the many misconceptions and hoaxes surrounding them
- Be familiar with some of their signs and symptoms
- Explain how the human immune system is affected
- Know the ways HIV is, and is not, transmitted
- Know about the most common methods of testing
- Practice standard precautions and strategies for prevention
- Identify common ocular manifestations of AIDS
- Be generally familiar with the laws surrounding them
- List standard operating procedures that an ECP should follow
- Reference outside resources for further research and information
- Receive a minimum score of 80% upon completion of the 25-question assessment

III Course Material:

One of the most prolific, divisive, misunderstood issues in the last few decades is AIDS. AIDS (which stands for Acquired Immune Deficiency Syndrome) is a condition in which the human immune system has sustained considerable damage. It is merely a far-advanced form of HIV (which stands for Human Immunodeficiency Virus). Although AIDS was first identified as a new disease in 1981, The origin of the Aids pandemic has been traced to the 1920s in the city of Kinshasa, in what is now the Democratic Republic of Congo, scientists say. A feat of viral archaeology was used to find the pandemic's origin, the team report in the journal Science.

They used archived samples of HIV's genetic code to trace its source, with evidence pointing to 1920s Kinshasa. Their report says a roaring sex trade, rapid population growth and unsterilised needles used in health clinics probably spread the virus. It is believed that HIV evolved from SIV (Simian Immunodeficiency Virus). Although various theories exist as to how the virus “jumped” from monkeys to man, the most likely route of the transmission involved human contact with the blood (meat) of hunted primates.

More of this very interesting article can be found at:

<http://www.bbc.com/news/health-29442642>

Also: <http://news.bbc.co.uk/2/hi/health/5012268.stm>

Timeline of events and developments of HIV/AIDS pre 1980s-2015:

Pre-1980s

1900s

Researchers from Europe estimate that some time in the early 1930s a form of simian immunodeficiency virus, SIV, was transmitted to humans in central Africa. The mutated virus was later identified as the first of other human immunodeficiency viruses, HIV-1.[1]

1959

X-ray showing infection with *Pneumocystis carinii* pneumonia.

The first known case of HIV in a human occurs in a man who died in the Congo, later (from his preserved blood samples) confirmed as having HIV infection.[2][3] The authors of the study did not sequence a full virus from his samples, writing that "attempts to amplify HIV-1 fragments of >300 base pairs (bp) were unsuccessful ... However, after numerous attempts, four shorter sequences were obtained"; these represented small portions of two of the six genes of the complete HIV genome.[3]

June 28, in New York City, Ardouin Antonio, a 49-year-old Jamaican-American shipping clerk dies of *Pneumocystis carinii* pneumonia, a disease closely associated with AIDS. Gordon Hennigar, who performed the postmortem examination of the man's body, found "the first reported instance of unassociated *Pneumocystis carinii* disease in an adult" to be so unusual that he preserved Ardouin's lungs for later study. The case was published in two medical journals at the time, and Hennigar has been quoted in numerous publications saying that he believes Ardouin probably had AIDS.

1960s

HIV-2, a viral variant found in West Africa, is thought to have transferred to people from sooty mangabey monkeys in Guinea-Bissau during this period.

1964

Jerome Horwitz of Barbara Ann Karmanos Cancer Institute and Wayne State University School of Medicine synthesize AZT under a grant from the US National Institutes of Health (NIH). AZT was originally intended as an anticancer drug.

1966

Genetic studies of the virus indicate that, in or about 1966, HIV first arrived in the Americas, infecting one person in Haiti. At this time, many Haitians were working in Congo, providing the opportunity for infection.

1968

A 2003 analysis of HIV types found in the United States, compared to known mutation rates, suggests that the virus may have first arrived in the United States in this year.[8] The disease spread from the 1966 American strand, but remained unrecognized for another 12 years.[9][medical citation needed] This is, however, contradicted by the estimated area of time of initial infection of Robert Rayford who was most likely infected around 1959.

1969

A St. Louis teenager, identified as Robert Rayford, dies of an illness that baffles his doctors. Eighteen years later, molecular biologists at Tulane University in New Orleans test samples of his remains and find evidence of HIV.[10]

1972

Gaëtan Dugas becomes sexually active.

1975

The first reports of wasting and other symptoms, later determined to be AIDS, are reported in residents of Africa.[11]

The daughter of Arvid Noe dies in January 1975.

1976

Norwegian sailor Arvid Noe dies; it is later determined that he contracted HIV/AIDS in Africa during the early 1960s.

1977

Danish physician Grethe Rask dies of AIDS contracted in Africa.

A San Francisco prostitute gives birth to the first of three children who were later diagnosed with AIDS. The children's blood was tested after their deaths and revealed an HIV infection. The mother died of AIDS in May 1987. Test results show she was infected no later than 1977.[12]

1978

A Portuguese man known as Senhor José (English: Mr. Joseph) dies; he will later be confirmed as the first known infection of HIV-2. It is believed that he was exposed to the disease in Guinea-Bissau in 1966.

1979

An early case of AIDS in the United States was of a female baby born in New Jersey in 1973 or 1974. She was born to a sixteen-year-old girl, an identified drug-injector, who had previously had multiple male sexual partners. The baby died in 1979 at the age of five. Subsequent testing on her stored tissues confirmed that she had contracted HIV-1.

1980s

1980

April 24, San Francisco resident Ken Horne, the first AIDS case in the United States to be recognized at the time, is reported to the Center for Disease Control with Kaposi's sarcoma (KS). He was also suffering from Cryptococcus.[15]

October 31, French-Canadian flight attendant Gaëtan Dugas pays his first known visit to New York City bathhouses. He would later be deemed "Patient Zero" for his apparent connection to many early cases of AIDS in the United States.[16]

December 23, Rick Wellikoff, a Brooklyn schoolteacher, dies of AIDS in New York City. He is the 4th US citizen known to die from the illness.[17]

1981

Kaposi's sarcoma on the skin of an AIDS patient

January 15, Nick Rock becomes the first known AIDS death in New York City.

May 18, Lawrence Mass becomes the first journalist in the world to write about the epidemic, in the New York Native, a gay newspaper. A gay tipster overheard his physician mention that some gay men were being treated in intensive-care units in New York City for a strange pneumonia. "Disease Rumors Largely Unfounded" was the headline of Mass's article. Mass repeated a New York City public-health official's claims that there was no wave of disease sweeping through the gay community. At this point, however, the Centers for Disease Control (CDC) had been gathering information for about a month on the outbreak that Mass's source dismissed.

June 5, The CDC reports a cluster of Pneumocystis pneumonia in five gay men in Los Angeles.[18]

July 3, An article in The New York Times carries the headline: "Rare Cancer Seen in 41 Homosexuals". The article describes cases of Kaposi's sarcoma found in forty-one gay men in New York City and San Francisco.[19]

July 4, The CDC reports clusters of Kaposi's sarcoma and Pneumocystis pneumonia among gay men in California and New York City.[20]

September, "AIDS poster boy" Bobbi Campbell becomes the 16th person in San Francisco diagnosed with Kaposi's sarcoma.[21]

December 12, First known case reported in the United Kingdom.[22]

One of the first reported patients to have died of AIDS (presumptive diagnosis) in the US is reported in the journal Gastroenterology. Louis Weinstein, the treating physician, commented that "Although no clear-cut evidence of immuno-deficiency could be demonstrated in our patient, this could not be ruled out completely."

By the end of the year, 121 people are known to have died from the disease.[8]

1982

April 12, Golden Globe-nominated film actor Lenny Baker succumbs to AIDS-related cancer at the age of 37. Baker had been gravely ill and in the final stage of the disease since 1980.[23]

June 18, "Exposure to some substance (rather than an infectious agent) may eventually lead to immunodeficiency among a subset of the homosexual male population that shares a particular style of life." [24] For example, Marmor et al. recently reported that exposure to amyl nitrite was associated with an increased risk of KS in New York City. [25] Exposure to inhalant sexual stimulants, central-nervous-system stimulants, and a variety of other "street" drugs was common among males belonging to the cluster of cases of KS and PCP in Los Angeles and Orange counties. [24]

July 4, Terry Higgins becomes one of the first people to die of AIDS-related illnesses in the United Kingdom, prompting the foundation in November of what was to become the Terrence Higgins Trust. [26]

July 9, The CDC reports a cluster of opportunistic infections (OI) and Kaposi's sarcoma among Haitians recently entering the United States. [1]

July 27, The term AIDS (acquired immune deficiency syndrome) is proposed at a meeting in Washington of gay-community leaders, federal bureaucrats and the CDC to replace GRID (gay-related immune deficiency) as evidence showed it was not gay specific. [27]

Summer, First known case in Italy. [28]

September 24, The CDC defines a case of AIDS as a disease, at least moderately predictive of a defect in cell-mediated immunity, occurring in a person with no known cause for diminished resistance to that disease. Such diseases include KS, PCP, and serious OI. Diagnoses are considered to fit the case definition only if based on sufficiently reliable methods (generally histology or culture). Some patients who are considered AIDS cases on the basis of diseases only moderately predictive of cellular immunodeficiency may not actually be immunodeficient and may not be part of the current epidemic. [29]

December 10, a baby in California becomes ill in the first known case of contracting AIDS from a blood transfusion. [16] [medical citation needed]

First known case in Brazil. [30]

First known case in Canada. [31]

First known case in Australia, diagnosed at St Vincent's Hospital, Sydney. [32]

1983

January, Françoise Barré-Sinoussi, at the Pasteur Institute in Paris, isolates a retrovirus that kills T-cells from the lymph system of a gay AIDS patient. In the following months, she would find it in additional gay and hemophiliac sufferers. This retrovirus would be called by several names, including LAV and HTLV-III before being named HIV in 1986. [33]

CDC National AIDS Hotline is established.

March, United States Public Health Service (PHS or USPHS) issues donor screening guidelines. AIDS high-risk groups should not donate blood/plasma products.

First AIDS-related death occurs in Australia, in the city of Melbourne. The Hawke Labor government invests in a significant campaign that has been credited with ensuring Australia has one of the lowest HIV infection rates in the world.

AIDS is diagnosed in Mexico for the first time. HIV can be traced in the country to 1981. [34]

The PCR (polymerase chain reaction) technique is developed by Kary Mullis; it is widely used in AIDS research.

Within a few days of each other, the musicians Jobriath and Klaus Nomi become the first internationally-known recording artists to die from AIDS-related illnesses.

First known case in Portugal. [35]

1984

Around January, the first case of HIV infection in the Philippines was reported.[36]

March 30, Gaëtan Dugas dies. He was a French Canadian flight attendant linked by the CDC directly or indirectly to 40 of the first 248 reported cases of AIDS in the U.S.

April 23, U.S. Health and Human Services Secretary Margaret Heckler announces at a press conference that an American scientist, Robert Gallo, has discovered the probable cause of AIDS: the retrovirus is subsequently named human immunodeficiency virus or HIV in 1986. She also declares that a vaccine will be available within two years.

June 25, French philosopher Michel Foucault dies of AIDS in Paris.

September 6, First performance at Theatre Rhinoceros in San Francisco of The AIDS Show which runs for two years and is the subject of a 1986 documentary film of the same name.

December 17, Ryan White was diagnosed with AIDS by a doctor performing a partial lung removal. White became infected with HIV from a blood products that were administered to him on a regular basis as part of his treatment for hemophilia. When the public school that he attended, Western Middle School in Russiaville, Indiana, learned of his disease in 1985 there was enormous pressure from parents and faculty to bar him from school premises. Due to the widespread fear of AIDS and lack of medical knowledge, principal Ron Colby and the school board assented. His family filed a lawsuit, seeking to overturn the ban.

1985

March 2, the FDA approves an ELISA test as the first commercially available test for detecting HIV in blood.[37][38] It detects antibodies which the body makes in response to exposure to HIV and is first intended for use on all donated blood and plasma intended for transfusion and product manufacture.[37]

October 2, Rock Hudson dies of AIDS. On July 25, 1985, he was the first American celebrity to publicly admit having AIDS; he had been diagnosed with it on June 5, 1984.

October 12, Ricky Wilson, guitarist of American rock band The B-52's dies from an AIDS related illness. The album Bouncing Off The Satellites, which he was working on when he died, is dedicated to him when it is released the next year. The band is devastated by the loss and do not tour or promote the album. Wilson is eventually replaced on guitar by his former writing partner Keith Strickland, the B52's former drummer.

October, a conference of public health officials including representatives of the Centers for Disease Control and World Health Organization meet in Bangui and define AIDS in Africa as "prolonged fevers for a month or more, weight loss of over 10% and prolonged diarrhea".

First officially reported cases in China.[39]

November 11, An Early Frost, the first film to cover the topic of HIV/AIDS is broadcast in the U.S. on prime time TV by NBC.

1986

HIV (human immunodeficiency virus) is adopted as name of the retrovirus that was first proposed as the cause of AIDS by Luc Montagnier of France, who named it LAV (lymphadenopathy associated virus) and Robert Gallo of the United States, who named it HTLV-III (human T-lymphotropic virus type III)

January 14, "one million Americans have already been infected with the virus and that this number will jump to at least 2 million or 3 million within 5 to 10 years..." – NIAID Director Anthony Fauci, New York Times.[40]

February, President Reagan instructs his Surgeon General C. Everett Koop to prepare a report on AIDS. (Koop was excluded from the Executive Task Force on AIDS established in 1983 by his immediate superior, Assistant Secretary of Health Edward Brandt.) Without allowing Reagan's domestic policy advisers to review the report, Koop released the report at a press conference on October 22, 1986.[41][42]

Attorney Geoffrey Bowers is fired from the firm of Baker & McKenzie after AIDS-related Kaposi's sarcoma lesions appeared on his face. The firm maintained that he was fired purely for his performance.[43] He sued the firm, in one of the first AIDS discrimination cases to go to a public hearing. These events were the inspiration for the 1993 film Philadelphia.[44]

November 18, model Gia Carangi dies of AIDS-related illness.

First officially known cases in the Soviet Union[45][medical citation needed]and India.[46]

1987

AZT (zidovudine), the first antiretroviral drug, becomes available to treat HIV.[8]

On February 4, popular performing musician Liberace dies from AIDS related illness.

In April the FDA approves a Western blot test as a more precise test for the presence of HIV antibodies than the ELISA test.[37]

On May 28, playwright and performer Charles Ludlam dies of AIDS-related PCP pneumonia.

On July 11, Tom Waddell, founder of the Gay Games, dies of AIDS.

Randy Shilts's investigative journalism book *And the Band Played On* published chronicling the 1980–1985 discovery and spread of HIV/AIDS, government indifference, and political infighting in the United States to what was initially perceived as a gay disease. (Shilts himself would die of the disease on February 17, 1994.)

On August 18 the FDA sanctioned the first clinical trial to test an HIV vaccine candidate in a research participant.[37]

1988

May, C. Everett Koop sends an eight-page, condensed version of his Surgeon General's Report on Acquired Immune Deficiency Syndrome report named *Understanding AIDS* to all 107,000,000 households in the United States, becoming the first federal authority to provide explicit advice to US citizens on how to protect themselves from AIDS.[41][47]

November 11, The fact-based AIDS-themed film *Go Toward The Light* is broadcast on CBS.

December 1, The first World AIDS Day takes place.

In Buenos Aires, Argentina, the rock musicians Miguel Abuelo (March 26) and Federico Moura (December 21), die from AIDS-related complications.

1989

The television movie *The Ryan White Story* airs. It stars Judith Light as Jeanne, Lukas Haas as Ryan and Nikki Cox as sister Andrea. Ryan White had a small cameo appearance as Chad, a young patient with AIDS. Another AIDS-themed film, *The Littlest Victims*, debuted in 1989, biopicing James Oleske, the first U.S. physician to discover AIDS in newborns during AIDS' early years, when many thought it was only spread through homosexual sex.

NASCAR driver Tim Richmond dies from AIDS-related complications.

Amanda Blake best known for her portrayal of saloon owner Miss Kitty on the television show *Gunsmoke* becomes the first actress of note in the United States to die of AIDS-related illness. Cause of death was Cardiac Arrest stemming from CMV Hepatitis, an AIDS-related hepatitis.

1990s

1990

Ryan White

January 6, British actor Ian Charleson dies from AIDS at the age of 40 — the first show-business death in the United Kingdom openly attributed to complications from AIDS.

February 16, New York artist and social activist Keith Haring dies from AIDS-related illness.

April 8, Ryan White dies at the age of 18 from pneumonia caused by complications associated with AIDS.

Congress enacted The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act or Ryan White Care Act, the United States' largest federally funded health related program (excluding Medicaid and Medicare).

July 7, Brazilian singer Cazuza dies in Rio de Janeiro at the age of 32 from an AIDS-related illness.

1991

November 7, NBA star Magic Johnson publicly announces that he is HIV-positive.

November 24, A little over 24 hours after issuing a statement confirming that he had been tested HIV positive and had AIDS, Freddie Mercury (singer of the British band Queen) dies at the age of 45. The official cause of death is bronchial pneumonia resulting from AIDS.

1992

The first combination drug therapies for HIV are introduced. Such "cocktails" are more effective than AZT alone and slow down the development of drug resistance.[8]

April 6, popular science fiction writer Isaac Asimov dies. Ten years later, his wife revealed that his death was due to AIDS-related complications. The writer was infected during a blood transfusion in 1983.[48]

June 18, Australian singer Peter Allen dies from complications due to AIDS.

July 20–24, Maria Dolzura Cortez becomes the first Filipino AIDS victim to come out in public to tell about her life and how she acquired the AIDS virus. She passed away a few months after due to complications related to AIDS.[49]

September 12, American actor Anthony Perkins, known for his role as Norman Bates in the *Psycho* movies, dies from AIDS.

At the Royal Free Hospital in London, an out-patients' centre for HIV and AIDS is opened by Ian McKellen. It is named the Ian Charleson Day Centre after actor Ian Charleson.

Robert Reed, best known as Mike Brady on the sitcom *The Brady Bunch* dies of AIDS on May 12.

1993

Tennis star Arthur Ashe dies from AIDS-related complications[50]

1994

Elizabeth Glaser, wife of Starsky & Hutch's Paul Michael Glaser, dies from AIDS-related complications almost ten years after receiving an infected blood transfusion while giving birth. She unknowingly passes AIDS on to her daughter, Ariel, and son, Jake. Ariel died in 1988, Jake is living with HIV, while Paul Michael remains negative.

Sarah Jane Salazar, a 19-year-old Filipino AIDS activist and educator, publicly admits she contracted HIV from a foreign customer while working as a club entertainer in the early 90's. She was the second Filipino to do so.[51][52] The first was Dolzura Cortez.

1995

Saquinavir, a new type of protease inhibitor drug, becomes available to treat HIV. Highly active antiretroviral therapy (HAART) becomes possible.[8] Within two years, death rates due to AIDS will have plummeted in the developed world.

March 26, Rapper Eazy-E dies from AIDS-related pneumonia.

April 4, British DJ and entertainer Kenny Everett dies from AIDS.

Oakland resident Jeff Getty becomes the first person to receive a bone marrow transplant from a Baboon as an experimental procedure to treat his HIV infection. The graft did not take, but Getty experienced some reduction in symptoms, before dying of heart failure after cancer treatment, in 2006.[53]

1996

Robert Gallo

Robert Gallo's discovery that some natural compounds known as chemokines can block HIV and halt the progression of AIDS is hailed by Science as one of that year's most important scientific breakthroughs.

HIV resistance due to the CCR5-Δ32 discovered. CCR5-Δ32 (or CCR5-D32 or CCR5 delta 32) is an allele of CCR5.[54][55]

The first home HIV test is approved by the FDA.

1997

September 2, The Washington Post carries an article stating, "The most recent estimate of the number of Americans infected (with HIV), 750,000, is only half the total that government officials used to cite over a decade ago, at a time when experts believed that as many as 1.5 million people carried the virus."

Based on the Bangui definition the WHO's cumulative number of reported AIDS cases from 1980 through 1997 for all of Africa is 620,000.[56] For comparison, the cumulative total of AIDS cases in the USA through 1997 is 641,087.

December 7, "French President Jacques Chirac addressed Africa's top AIDS conference on Sunday and called on the world's richest nations to create an AIDS therapy support fund to help Africa. According to Chirac, Africa struggles to care for two-thirds of the world's persons with AIDS without the benefit of expensive AIDS therapies. Chirac invited other countries, especially European nations, to create a fund that would help increase the number of AIDS studies and experiments. AIDS workers welcomed Chirac's speech and said they hoped France would promote the idea to the Group of Eight summit of the world's richest nations."[57]

1998

December 10, International Human Rights Day, Treatment Action Campaign (TAC) is launched to campaign for greater access to HIV treatment for all South Africans, by raising public awareness and understanding about issues surrounding the availability, affordability and use of HIV treatments. TAC campaigns against the view that AIDS is a death sentence.

1999

January 31, Studies suggest that a retrovirus, SIVcpz (simian immunodeficiency virus) from the common chimpanzee *Pan troglodytes*, may have passed to human populations in west equatorial Africa during the twentieth century and developed into various types of HIV.[58][59]

Edward Hooper releases a book called *The River*, which accuses doctors who developed and administered the oral polio vaccine in 1950s Africa of unintentionally starting the AIDS epidemic. The OPV AIDS hypothesis receives a great deal of publicity.[8] It was later refuted by studies demonstrating the origins of HIV as a mutated variant of a simian immunodeficiency virus that is lethal to humans.[60][61][62][63][64] Hooper's hypothesis should not be confused with the Heart of Darkness origin theory.

2000s

2000

World Health Organization estimates between 15% and 20% of new HIV infections worldwide are the result of blood transfusions, where the donors were not screened or inadequately screened for HIV.[citation needed]

June 11, Sarah Jane Salazar died at the age of 25 from AIDS complications. Before her death, Salazar was confined at the National Center for Mental Health after being diagnosed with manic depression which doctors said may have been related to anti-AIDS drugs she was taking.[65]

2001

September 21, FDA licenses the first nucleic acid test (NAT) systems intended for screening of blood and plasma donations.

2004

January 5, "Individual risk of acquiring HIV and experiencing rapid disease progression is not uniform within populations", says Anthony S. Fauci, the director of NIAID.[66] [2]

2005

January 21, The CDC recommends anti-retroviral post-exposure prophylaxis for people exposed to HIV from rapes, accidents or occasional unsafe sex or drug use. This treatment should start no more than 72 hours after a person has been exposed to the virus, and the drugs should be used by patients for 28 days. This emergency drug treatment has been recommended since 1996 for health-care workers accidentally stuck with a needle, splashed in their eyes with blood, or exposed in some other work-related way.[67]

A highly resistant strain of HIV linked to rapid progression to AIDS is identified in New York City. In August, IFLA/FAIFE (International Federation of Library Associations/Free Access to Information and Freedom of Expression Committee) launches its world report, highlighting that

library and information workers are making efforts to raise awareness of HIV and AIDS in the United States. This type of library service has yet to be initiated in other parts of the world.[68]

2006

November 9, SIV found in gorillas.[69]

2007

The first case of someone being cured of HIV is reported. A San Francisco man, Timothy Ray Brown, suffering from leukemia and HIV, is cured of HIV through a bone marrow transplant in Germany. Other similar cases are being studied to confirm similar results.[citation needed]

Maraviroc, the first available CCR5 receptor antagonist, is approved by the FDA as an antiviral drug for the treatment of AIDS.

2010s

2011

Confirmation is published that the first patient cured of HIV, Timothy Ray Brown, still has a negative HIV status, 4 years after treatment.

2013

Confirmation is published that a toddler has been "functionally cured" of HIV infection.[71] However, in 2014, it was announced that the child had relapsed and that the virus had re-appeared.[72]

A New York Times Article says that 12 people of 75 who began combination antiretroviral therapy soon after becoming infected may have been "functionally cured" of HIV according to a French study. A functionally cured person will not experience an increase of the virus in the bloodstream despite stopping antiretroviral therapy, and therefore not progress to AIDS.[73][74]

2014

Former International AIDS Society president Joep Lange and other HIV/AIDS researchers were killed in the MH17 plane crash in July.[75]

PrEP (Pre Exposure Protection) was first approved for prevention.

CDC releases study showing if PrEP use increases in high-risk populations, almost 20% of the estimated 265,330 new HIV infections expected to occur through 2020 could be prevented. The number could be even higher if NHAS targets are achieved.

2015

New, aggressive strain of HIV discovered in Cuba [76] Researchers at the University of Leuven in Belgium say the HIV strain CRF19 can progress to AIDS within two to three years of exposure to virus. Typically, HIV takes approximately 10 years to develop into AIDS. Patients with CRF19 may start getting sick before they even know they've been infected, which ultimately means there's a significantly shorter time span to stop the disease's progression.

2016

Overall, US HIV diagnoses decreased over past decade, but some groups experienced increases.

CDC announces that annual HIV diagnoses in the US fell by 19% from 2005-2014. There were steep declines among heterosexuals, people who inject drugs, and African Americans (especially black women), but trends for gay/bisexual men varied by race/ ethnicity. Diagnoses among white gay/bisexual men decreased by 18%, but they continued to rise among Latino gay/bisexual men and were up 24%. Diagnoses among black gay/bisexual men also increased (22%) but the increase has leveled off since 2010.

<https://www.cdc.gov/nchhstp/newsroom/docs/factsheets/hiv-data-trends-fact-sheet-508.pdf>

2019

Federal Government announces they have a plan “Ending The HIV Epidemic”

December 2019-Announces using/stepping up the use of PrEP to lower the number of new cases.

2020-2023

- November 2023: Study refines understanding of T cells' action in HIV immune response
<https://medicalxpress.com/news/2023-11-refines-cells-action-hiv-immune.html>
- November 2023: Another step towards an HIV vaccine!
<https://medicalxpress.com/news/2023-11-hiv-vaccine-dynamics-neutralizing-antibodies.html>

2023-2024 Latest News:

Background

HIV has cost America too much for too long and remains a significant public health issue:

More than 700,000 American lives have been lost to HIV since 1981.

More than 1.1 million Americans are currently living with HIV and many more are at risk of HIV infection.

While new HIV diagnoses have declined significantly from their peak, progress on further reducing them has stalled with an estimated 40,000 Americans being newly diagnosed each year. Without intervention another 400,000 Americans will be newly diagnosed over 10 years despite the available tools to prevent infections.

The U.S. government spends \$20 billion in annual direct health expenditures for HIV prevention and care.

There is a real risk of an HIV resurgence due to several factors, including injection drug use and diagnostic complacency among healthcare providers.

Goal

The new initiative seeks to reduce the number of new HIV infections in the United States by 75 percent within five years, and then by at least 90 percent within 10 years, for an estimated 250,000 total HIV infections averted.

“Today we have the
Right Data, Right Tools, and Right Leadership to end the HIV epidemic.”

What are the Right Data and Right Tools?

Today we have the tools available to end the HIV epidemic. Landmark biomedical and scientific research advances have led to the development of many successful HIV treatment regimens, prevention strategies, and improved care for persons living with HIV.

Data tell us that most new infections occur in a limited number of counties and among specific populations.

Thanks to advances in antiretroviral therapy, the medicine used to treat HIV, individuals with HIV who take their medicine as prescribed and, as a result, maintain an undetectable viral load can live long, healthy lives and have effectively no risk of sexually transmitting HIV to a partner.

We have proven models of effective HIV care and prevention based on over two decades of experience engaging and retaining patients in effective care.

Pre-exposure prophylaxis (PrEP), a daily regimen of two oral antiretroviral drugs in a single pill, has proven to be highly effective in preventing HIV infection for individuals at high risk, reducing the risk of acquiring HIV by up to 97 percent.

New laboratory and epidemiological techniques allow us to pinpoint where HIV infections are spreading most rapidly so health officials can respond swiftly with resources to stop the further spread of new infections.

With these powerful data and tools, the Administration sees a once-in-a-generation opportunity to end the epidemic.

Authors Note:

The phenomenon of exceptional elite control—people who, without the use of ART, control HIV viral replication and do not experience immune dysfunction—has been noted in six individuals who have been followed for 30 years by researchers. Along with the Esperanza patient, reported in 2021, researchers propose they may be considered a good model for an HIV cure.

YEAR	DESCRIPTION OF EVENT	DEATH
1920's	The origin of AIDS as traced by viral archaeology and genetic code	
1978-1979	Gay men in America and Sweden, and heterosexual men in Haiti and Tanzania, begin to show symptoms of what will eventually be called AIDS.	
1981	CDC reports 24 cases of Karposi Sarcoma among gay men; eight had died/24 month.	234
1982	CDC links this new disease with blood; initially called GRID (Gay Related Immunodeficiency Virus); later, the term AIDS is coined for the first time.	449
1983	Problem with the blood banks first identified; Pasteur Institute in France isolates the virus that causes AIDS (HIV).	1,478
1984	Dr. Robert Gallo (USA) claims to have discovered the virus that causes AIDS; this comes one year after the French discovery.	3,454
1985	First International Conference on AIDS; actor Rock Hudson succumbs to AIDS; FDA approves the first HIV antibody test.	6,854
1986	US Surgeon General publishes major report on living with AIDS.	11,942
1987	AZT becomes first anti-HIV drug approved by the FDA; the US stops allowing HIV-positive immigrants into the country.	16,118
1988	US mails 107 million copies of Understanding AIDS, by Surgeon General, Koop; bans discrimination against federal workers with HIV.	20,800
1989	Haiti stops distributing tainted blood; actress Amanda Blake (Gunsmoke) dies of complications brought on by AIDS.	27,423
1990	Ronald Regan apologized for his administration's neglect of the "epidemic."	31,145
1991	10 million people have HIV worldwide (WHO); 1 million in US (CDC).	36,220
1992	FDA starts accelerated approval process for HIV-related drugs. Total of 250,000 have been diagnosed with HIV/AIDS/almost 200,000 deaths!	40,674
1993	CDC revises definition of AIDS to include new opportunistic infections.	44,991
1994		49,442
1995	Germany convicts four people of selling HIV-tainted blood products.	49,895
1996	Time names AIDS researcher, Dr. David Ho, their Man of the Year.	37,221
1997	CDC reports first probable case of HIV transmission by kissing; approximate worldwide death toll from AIDS is 6,400,000; 22 million HIV-positive people worldwide.	21,445
1998	Combination therapy is made available to HIV/AIDS patients for the first time, leading to a dramatic decline in AIDS-related deaths.	17,171
1999		16,762
2000		14,899
2001	Just fewer than 1 million people reported living with AIDS in the US (CDC).	8,998
2002	The FDA approves the OraQuick "finger prick" Rapid HIV-1 Antibody Test	16,371
2003		14,000
2005		17,100
2007		22,000
2009		17,000
2013		14,000
2019		15,815
2020		18,489
2022		N/A

Over 1.2 Million people reported living with AIDS in the US(2021) Total deaths from AIDS=700,000 (2021)

(Sources for events and statistics include US Department of Health and Human Services; CDC)
Great timeline chart available for even more information:

<http://www.amfar.org/thirty-years-of-hiv/aids-snapshots-of-an-epidemic/>

Hoaxes and Misconceptions:

Occasionally the CDC (Center for Disease Control) in Atlanta must issue statements to dispel the latest rumor, misconception or hoax related to HIV and its spread. Some of the more recent include:

1. People who have been stuck by needles in the coin slot return of public, pay telephones have contracted HIV. Denied.
2. People sitting on needles stuck in movie theater seats have contracted HIV. Denied.
3. People stuck by needles in gas-pump handles have contracted the virus. Denied.
4. People infected by improperly disposed syringes or needles have been exposed to HIV. Denied. In fact, according to the CDC, no person other than a health-worker who has suffered a needle-stick injury on the job has ever contracted HIV in this manner.
5. Researchers discovered a mutated version of HIV that can be transmitted through the air. This report first appeared in December 2000 in *The Weekly World News*, a tabloid newspaper of some questionable repute. Regardless, the rumor spread rapidly, even finding its way into the mainstream media. The story was/is flat out not true.
6. HIV can be transmitted by contact with unused sanitary napkins. Another fantastical story, this one first appeared in March 2001, and then again resurfaced in August 2003. Of course, no one has ever contracted HIV by coming in contact with feminine pads – used or unused – still, the CDC recommends that used pads be wrapped and properly disposed of so no one comes in contact with blood.
7. Using the same toilet seat as an infected person can cause HIV. Denied.
8. Touching, hugging, or shaking hands...denied.
9. Swimming in the same pool...denied.
10. Eating in the same restaurant...denied.

To learn more about these and other misconceptions, contact the Center for Disease Control at their website, www.cdc.gov, or by phone: (800) 342-2437.

Signs and Symptoms:

Although there are some common signs and symptoms, the only way you know if you are infected with HIV is to be tested. Many people who are infected with HIV have few, if any, symptoms, for many years.

However, most people who contract the HIV virus usually experience symptoms not unlike the common cold or flu, followed by, sometimes, nothing. The incubation period for HIV can sometimes last a long, long time. Then, some of the most common symptoms include: fever, prolonged fatigue, diarrhea that lasts for more than a week, skin rashes, night sweats, loss of appetite, dry cough, swollen lymph glands, significant unexplained weight loss, white spots or unusual blemishes on the tongue or in the mouth, vaginal discharge (similar to a yeast infection), memory loss, and movement or coordination problems. Sometimes red, pink, or purplish blotches appear on or under the skin, or inside the mouth, nose, or eyelids. People should not assume they are infected if they exhibit any of the symptoms. Each of these symptoms could be related to other

illnesses. Again, the only way to determine whether or not you are infected is to specifically be tested for HIV.

How the immune system is affected:

HIV invades the cells of our immune system and in a sense, reprograms the cells to become HIV-producing “factories.” The HIV attaches itself to CD4 and T-cells, which are part of the body’s immune system. One of the functions of the CD4 and T-cells is to act as “messenger” cells. When the body is “attacked” by an infection or virus, these CD4 and T-cells send messages to other white blood cells in the body, alerting them of the infection and telling them to go and fight it. The HIV “attaches” itself to these other cells, making it more and more difficult for them to do their job of alerting the “fighter” cells to go do their job. Slowly, the number of immune cells in the body dwindles, and AIDS develops. Once AIDS begins to manifest itself, the body is more susceptible to many different infections. HIV has also shown the ability to mutate, which makes the spread of the virus nearly impossible to control.

No one dies from HIV or AIDS directly. Instead, an AIDS-infected person dies from infections, due to the fact that his or her immune system has been compromised as described above. An AIDS patient sometimes dies of cancer, but could just as easily die from a common cold; the patient’s body simply cannot fight off the infection so he or she eventually dies.

Ways that HIV is (and is not) transmitted:

HIV can infect anyone who practices risky behaviors such as:

- Sharing drug needles or syringes with a person who has HIV.
- Sharing infected needles for body piercing or tattooing.
- Having sexual contact (vaginal, anal, or oral) with an infected person. Sexual abstinence is the only way to avoid contracting HIV in this area. Since many people are unwilling to follow this precaution (abstinence), it is essential to always use a condom when having sex with a partner whose HIV status is unknown.
- Having sexual contact with a person whose HIV status is unknown.
- Contact with bodily fluids such as blood, synovial fluid (surrounding joints), or cerebrospinal fluid.
- Babies born of infected mothers who contract HIV before or during birth.
- Through breast milk, while breast feeding.

It is important to note that HIV is not transmitted through casual, non-invasive contact. There are no known cases of people being infected by mosquito bites, holding hands, sharing eating utensils, using public toilets, or donating blood. (Infection by donating blood is extremely rare, since all donated blood products have been tested since 1985.) While HIV has been detected in tears and in the tear layer of patients, it has only been detected in the lowest measurable concentration, and there is no known case of transmission by simply being exposed to tears.

Regardless of how the exposure to HIV occurs, the average time between HIV infection and the onset of AIDS is ten years. Once contracted, the virus/disease is considered permanent. It is important to note that during the latency period of AIDS it is still communicable, meaning that even though an HIV-positive individual is leading a symptom-free life, he or she could still expose others to the disease. These two characteristics – latency and permanence – are the primary reasons that AIDS has reached pandemic (widespread) proportions in many parts of the world.

Common methods of testing for HIV:

An HIV test is used to determine if someone is HIV positive. There are several different tests that can be used. The first test to be developed is still the most frequently one used for initial detection. It is called the enzyme-linked immunosorbent assay test, or as it is more commonly referred to: the ELISA or EIA test. It is usually performed by drawing blood from the arm. If the initial ELISA test is negative – that is, no antibodies were found – the testing is complete. If the results are positive, the lab will want to make sure it was not a false positive, so they will probably repeat the test. If the results are once again positive, they will conduct a test known as Western Blot. If both of these tests are positive, the diagnosis is confirmed: the subject is HIV positive.

For the vast majority of those who test positive, there is a 4-6 week period after exposure in which they will not test positive. To make certain that reliable results are achieved, it is recommended that the ELISA test be administered 13 weeks following the last possible exposure. Though this is the most common method of testing, several others exist. For details about the other methods and their advantages and disadvantages, go to www.aidsmeds.com.

Standard Precautions and Strategies for Prevention:

Standard precautions for controlling the spread of HIV include:

- Not having sex with an infected or unknown person.
- Not sharing needles or syringes with an infected or unknown person.
- Avoiding any risky behaviors that involve bodily secretions.
- Educating people about the disease.

Common ocular manifestations of HIV and AIDS:

Generally, people who are simply HIV positive rarely have conditions that adversely affect their eyesight. Because HIV attacks the immune system, however, eye infections are common in people living with the virus. Clinical and autopsy studies show that 75% of patients with AIDS will have some sort of serious, optical findings. A few of the more common manifestations include:

1. Cotton Wool Spots – While one of the most common eye problems for AIDS patients, this one is not sight threatening. It affects the retina (the inner layer of the eye that sends signals to the brain) by causing a small amount of bleeding and white spots (called cotton wool spots) on the retina itself.
2. CMV Retinitis – Cytomegalovirus (CMV) is found in @ 25% of AIDS patients. It causes a serious infection of the retina, and occurs usually when the patient's T-cell count is dangerously low. CMV can cause permanent loss of vision, and there is no treatment for it. An ophthalmologist should be contacted if a patient notices floating spots, flashing lights, blind spots, or blurred vision. CMV can also cause retinal detachment.
3. Severe Red Eye – People with AIDS can have severe red eyes and infections that last a very long time. This sometimes evolves into ocular shingles.
4. Karposi Sarcoma – This is a kind of cancerous tumor that usually appears as red/purple spots. The tumor may look frightening but it usually does not harm the eye. It can be treated with radiation, laser therapy, freezing, or surgery.
5. Extreme Dry Eye
6. Molluscum Contagiosum – Flesh-colored, nodular growths near the eyelid.

7. Severe Corneal Infections – Usually occurring in AIDS patients who contracted HIV as an intravenous drug user.
8. Swelling of the Optic Nerve – This condition is similar to the symptoms shown by patients suffering from glaucoma.

HIV/AIDS and Florida Law:

The Florida Omnibus AIDS Act of 1988 specifically lays out protections for Florida's citizens who are HIV positive or who are living with AIDS. The law, which was amended in 1991, ensures that HIV/AIDS citizens cannot be discriminated against in the workplace and should be allowed to remain at their jobs as long as it is possible. The act also says that employees cannot be denied raises and/or promotions due to their HIV/AIDS status. It also addresses "informed, voluntary, and confidential" use of testing procedures designed to test for human immunodeficiency. This means that people can undergo testing without the fear of having these test results passed on to their employers with detrimental ramifications.

Generally, an employer cannot make HIV testing mandatory, unless they can show that being free of HIV is indeed a BFOQ (bona-fide occupational qualification). In the interest of public safety and health, voluntary testing is encouraged.

It is also illegal to force a patient to undergo an HIV test prior to receiving medical care or emergency treatment. Hospitals and EMTs (emergency medical technicians) are required to treat people without regard to HIV status. People with HIV/AIDS are protected under the ADA (Americans with Disabilities Act). Again, in the interest of public safety and health, people are encouraged to disclose their HIV status to health care officials.

The Florida law also makes it a felony for any HIV-positive person to knowingly donate their infected blood, or to have sexual intercourse before informing their prospective partner of their HIV status.

Federal HIPAA laws further protect the privacy rights of all individuals.

Universal Precautions for Healthcare Workers; Specific Precautions/Guidelines for Eye-Care Professionals; Post-Exposure Prophylaxis:

Generally speaking, all healthcare workers should treat blood, fluids, and patients they come in contact with as though they were infected. Potentially dangerous fluids include blood, semen, vaginal fluid, synovial fluid, cerebrospinal fluid, amniotic fluid, saliva present during some dental procedures (where blood is likely).

The three elements of Universal Precaution include:

1. Barrier protection
2. Personal hygiene
3. Environmental and instrument disinfection

Barrier protection includes things like gloves, masks, gowns – anything that forms a physical shield (barrier) between the healthcare worker and possibly infectious materials. Gloves should be worn whenever you might come in contact with fluid that may contain blood, and/or where dermatological lesions are present on your hands. Gloves should be removed and properly disposed of after each patient encounter.

It should be noted that the above precautions are "universal," in nature, meaning all healthcare workers should comply with them. It should also be noted that for ECPs, the single most

effective step to take in the prevention of the spread of HIV is to thoroughly wash hands in between each patient encounter. That alone should be sufficient, but when extraordinary circumstances exist, follow the guidelines outlined above. Consider the following chart, which outlines *actual*, documented cases of infection, as well as *possible* cases of transmission, listed with regard to the specific, healthcare profession. These statistics are for the United States, 1983-2003:

OCCUPATION	DOCUMENTED OCCUPATIONAL TRANSMISSION	POSSIBLE OCCUPATIONAL TRANSMISSION
Dental worker, including dentist	0	6
Embalmer; morgue technician	1	2
EMT (Emergency Medical Technician)	0	12
Health aid; attendant	1	15
Housekeeper; maintenance	2	13
Labor technician, clinician	16	17
Laboratory technician (non-clinical)	3	0
Nurse	23	35
Physician, non-surgical	6	12
Physician, surgical	0	6
Respiratory therapist	1	2
Dialysis technician	1	3
Surgical technician	2	2
Technician/therapist, other than listed	0	9
Other healthcare occupations (including ECPs)	0	4
TOTAL	56	138

(Source: Avert – Healthcare Workers and AIDS Prevention; www.avert.org/needlestick.htm)

Remember, ECPs would fall into the category of “other healthcare occupations.” In the 18 years for which statistics are available, only four *possible* occupational transmissions occurred for all “other” healthcare professions, of which ECPs are an infinitely small percent.

However, if exposure to HIV occurs, it is important that ECPs follow specific steps following the exposure. This is called Post-Exposure Prophylaxis (PEP). Most healthcare facilities will have a specific protocol in place, but absent that you should first wash away the suspected blood or body fluid using generous amounts of water and antibacterial soap. If you have experienced a puncture wound, encourage bleeding and wash thoroughly again. If your eyes have been affected, rinse them thoroughly with saline solution. If your mouth has been affected, rinse thoroughly with water. Follow your organization’s procedures for reporting the incident. Research indicates that using anti-HIV drugs (such as AZT) soon after exposure will minimize the risk of transmission. Therefore, immediately seek medical treatment for testing and prophylactic treatment.

Having said all that, the following precautions and guidelines apply to eye care professionals, and are taken directly from CDC literature: “Healthcare professional performing eye examinations or other procedures involving contact with tears should wash their hands after each procedure and in-between patients. Hand washing alone should be sufficient, but when practical and convenient, disposable gloves may also be worn. The use of gloves is advised when there are dermatological lesions on the hands. The use of other protective measures such as masks, gowns, and goggles is not indicated.”

Instruments that come in direct contact with external surfaces of the eye should be wiped clean and then disinfected using one of the following methods:

- A 5-10 minute exposure to a fresh solution of 3% hydrogen peroxide.
- A fresh solution containing 5,000 parts per million (mg/l) of available chlorine, which is the equivalent of a 1/10 dilution of common, household bleach.
- A 70% solution of ethanol or isopropyl alcohol.

Whichever method is used, the device should be thoroughly rinsed with tap water and dried before each use.

With regard to contact lenses, disposable lenses should be used whenever possible. Non-disposable contact lenses used in trial fittings should be disinfected in-between each fitting by one of the following methods:

- Hard lenses should be disinfected with a hydrogen peroxide system that was commonly used for soft CLs. Alternately, most hard lenses could be heat treated for a minimum of 10 minutes. (Check with lens manufacturer for best method.)
- RGP lenses should follow the same guidelines as above; however, care should be given, as heat-treating may warp some RGP lenses. (Check with lens manufacturer.)
- Soft lenses should also be disinfected using the hydrogen peroxide or heat method listed above. (Check with lens manufacturer for specific guidelines.)

Resources for further research and information:

- November 2023: Study refines understanding of T cells' action in HIV immune response
<https://medicalxpress.com/news/2023-11-refines-cells-action-hiv-immune.html>
- November 2023: Another step towards an HIV vaccine!
<https://medicalxpress.com/news/2023-11-hiv-vaccine-dynamics-neutralizing-antibodies.html>
- *Living Well With HIV and AIDS* by Allen L. Gifford, et al
- *The AMFAR AIDS Handbook: The Complete Guide to Understanding HIV and AIDS* by Darrel E. Ward
- *Practice Issues in HIV and AIDS: Models and Program Applications* by Ronald J. Mancoste, editor
- Florida AIDS Hotline: (800) 352-2437
- Website:
 - www.cdc.gov/hiv
 - www.aids.org
 - www.undp.org
 - www.fda.gov/oashi/aids.html
 - www.avert.org
 - www.aidsmeds.com

Questions for HIV and AIDS-A Primer for Optical Professionals- -1hr

1. AIDS was first identified as a new disease by the Centers for Disease Control in what year?
 - a. 1971
 - b. 1981
 - c. 1991
 - d. 2001

2. Although various theories exist as to how the immunodeficiency virus jumped from simians to humans, the most likely explanation is:
 - a. Humans were infected by the blood of hunted primates
 - b. Illicit sexual contact between simians and humans
 - c. The virus was spread aerobically
 - d. None of the above

3. 1985 was a landmark year in the development of attention to the problem of HIV because:
 - a. Time magazine named a prominent AIDS researcher as its Man of the Year
 - b. The United States reached the 1,000,000 mark of known cases of AIDS
 - c. The First International Conference on AIDS was held
 - d. Prominent actor Rock Hudson died from complications brought on by AIDS
 - e. Both a and b
 - f. Both c and d

4. As of the year 2002, the number of deaths in the United States due to AIDS was nearly:
 - a. 100,000
 - b. 250,000
 - c. 300,000
 - d. 500,000

5. In December 2000, it was reported that the CDC had discovered a mutated version of HIV that could be transmitted aerobically, that is, through the air. The previous statement is an example of:
 - a. The unsubstantiated hoaxes and misconceptions surrounding HIV and AIDS
 - b. One of the reasons HIV is continuing to spread
 - c. The result of years of research at the CDC
 - d. None of the above

6. Which of the following is *not* a common symptom of HIV?
 - a. Skin rashes
 - b. Swollen lymph glands
 - c. Night sweats
 - d. Loss of appetite
 - e. All of the above are possible symptoms

Questions for HIV and AIDS-A Primer for Optical Professionals- -1hr

7. To determine whether or not a person is HIV positive, it is best:
 - a. To be specifically tested for HIV status
 - b. To carefully monitor weight loss and be concerned at the 20 lb. mark
 - c. To abstain from unprotected sexual intercourse
 - d. All of the above

8. The human immune system is affected by HIV because:
 - a. HIV turns into AIDS within 90 days of exposure to the virus
 - b. HIV attaches itself to CD-4 and T-cells, eventually rendering them useless
 - c. It mutates into many different viruses
 - d. None of the above

9. HIV can infect anyone who engages in risky behaviors, such as:
 - a. Sharing drug needles or syringes
 - b. Sharing infected needles for body piercing or tattooing
 - c. Having sexual intercourse with an infected person
 - d. All of the above
 - e. None of the above

10. ELISA stands for:
 - a. Equivalency Litmus Index for Sexual Activity
 - b. Enzyme Litmus Test for Sexual Activity
 - c. Enzyme Linked Immunoassay Algorithm
 - d. Enzyme Linked Immunosorbent Assay Test
 - e. None of the above

11. The Florida Omnibus AIDS Act that instituted many protections and privacy for HIV/AIDS patients was passed in:
 - a. 1980
 - b. 1983
 - c. 1985
 - d. 1988

12. Between 1983-2001 the total number of documented and possible occupational transmissions of HIV among healthcare workers totaled:
 - a. 194
 - b. 354
 - c. 530
 - d. 823
 - e. Over 1,000

Questions for HIV and AIDS-A Primer for Optical Professionals- -1hr

13. For Eye Care Professionals, the single most significant precaution for the prevention of HIV is:
- Gowns
 - Masks
 - Hand washing
 - Goggles
 - None of the above
14. Reporting an exposure incident to your employer, thoroughly disinfected affected areas, and being tested for HIV is all part of:
- Health care workers code of ethics
 - Routine procedures for nurses and surgeons
 - Post-Exposure Prophylaxis
 - None of the above
15. Instruments that come in direct contact with the external surfaces of the eye should be disinfected using which of the following methods:
- A 5-10 minute exposure of a fresh solution of 3% hydrogen peroxide
 - A fresh solution of diluted common household bleach
 - A 70% solution of ethanol or isopropyl alcohol
 - All of the above methods are acceptable
16. The first case of someone being cured of HIV is reported. A San Francisco man, Timothy Ray Brown, suffering from leukemia and HIV, is cured of HIV through a bone marrow transplant in Germany.
- True
 - False
17. A single case of HIV transmission from tears was recorded in 2006
- True
 - False
18. Robert Gallo's discovery that some natural compounds known as _____, can block HIV and halt the progression of AIDS is hailed by Science as one of that year's most important scientific breakthroughs.:
- Immunodeficiency virus
 - "cocktails"
 - Chemokines

Questions for HIV and AIDS-A Primer for Optical Professionals- -1hr

19. This is a kind of cancerous tumor that usually appears as red/purple spots. The tumor may look frightening but it usually does not harm the eye. It can be treated with radiation, laser therapy, freezing, or surgery
- CMV Retinitis
 - Karposi Sarcoma
 - Mollogium Contagiosum
20. Which way listed below IS a way of transmission of HIV:
- Mothers Breast Milk
 - Mosquito bites
 - donating blood
 - Sharing eating utensils
 - Using public toilets
21. Who was the first to identify the virus that causes AIDS?:
- Robert Gallo
 - Pasteur Institute in France
 - Jacques Chirac
 - Ronald Regan
22. Persons with AIDS are considered legally handicapped and having all rights as any other handicapped person.
- True
 - False
23. By the year _____, almost 250,000 diagnosed with HIV/AIDS and almost 200,000 deaths.
- 1992
 - 1995
 - 1999
 - 2000
24. The first home test kit was approved by the FDA in what year:
- 1996
 - 1999
 - 2001
 - 2009
25. The FDA approves the OraQuick "finger prick" Rapid HIV-1 Antibody Test.
- 2001
 - 2002
 - 2010
 - 2012

Answer sheet for HIV/AIDS=A Primer for Optical Professionals--1hr

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