



AIDS InSite

Information you can use

April 2008



Good news in the HIV arena

Scientists at the Gladstone Institute of Virology and Immunology and the University of California, San Francisco (UCSF) recently found that therapy can be used to stimulate the production of vital immune cells - or T-cells - in adults with HIV infection.

HIV destroys T-cells, leading to the collapse of the immune

system thus allowing the body to suffer severe infection. The thymus gland, which produces T-cells, gradually loses function over time and becomes generally inactive during adulthood. Because the thymus gland does not function well in adults, it is difficult for HIV-infected adults to make new T-cells. Therefore, therapies that stimulate the

thymus to produce new T-cells may indeed help HIV-infected patients to rebuild their brittle immune systems.

Although it has been long assumed that the thymus cannot be reactivated in humans, new research shows that the thymus can actually be stimulated to produce more T-cells. This study is the first to show that pharmacologic (chemical) therapies can be used to enhance the function of the thymus.

According to Dr Laura Napolitano, lead author of the study and an assistant investigator at Gladstone and assistant Professor of Medicine at UCSF: "These results represent new proof-of-principle findings that thymic involution (loss of thymic activity) can be reversed in humans."

Dr Napolitano believes improved T-cell production may be helpful for some medical conditions like HIV. "These findings offer new information to our understanding of T-cell production and are also an important step to determine whether immune therapies might someday benefit patients who need more T-cells."

While scientists are excited at the findings of the study, they are sounding caution bells, saying that more research is needed to learn whether stimulating the production of new T-cells actually provides a health benefit.

What are Universal Precautions?

Universal precautions are infection control techniques that were first recommended following the outbreak of AIDS in the 1980s. What it means is that if every patient is treated as if they are infected with a contagious disease, proper precautions will be taken to minimise the risk of the disease spreading.

Universal precautions are essentially just good hygiene habits, like hand washing and the use of gloves and other barriers; the correct handling of needles and blades; and proper cleaning techniques.

Universal precautions are recommended not only for doctors, nurses and patients, but for health care support workers and caregivers. Some support workers - like laundry and house-keeping staff - may also come into contact with patients or bodily fluids and should take note of Universal Precautions.

Protective clothing may include:

- Wearing gowns
- Disposable latex gloves
- Eyewear (goggles or glasses)
- Face shields
- Hair nets
- Shoe coverings

If you work in an environment where infectious disease may be prominent, take precautions to ensure your own well-being.





Tips for using a male condom

- 1 Keep it fresh:** Always store condoms in a cool dry place (not a wallet) and check the "use by" date.
- 2 Inspection:** Squeeze the package gently to make sure there are no punctures and be sure to not use your teeth to open the package (or your teeth could rip the condom!)
- 3 How to:** Unroll the condom a little before putting it on and make sure it's able to roll easily down the penis. Squeeze the tip (so semen can collect) and roll the condom from the tip of the penis all the way to the base. If uncircumcised, pull the foreskin back before putting the condom on.
- 4 One is enough:** Be sure to never use more than one condom at a time. Doubling up can lead to friction and possibly the condom breaking. One condom is sufficient.
- 5 Get set:** Apply lots of water based lubricant to the condom to prevent friction which could cause breakage.
- 6 Easy on, easy off:** After ejaculation, remove the penis from the vagina while still erect and carefully unroll and remove the condom. Be careful to not spill any semen on your partner. Never use a condom for more than one session.
- 7 New rules:** Always use a new condom each time you have sex, or when you switch from oral to vaginal or anal sex. This will reduce the risk of the condom breaking.

HIV turns Salmonella poisoning lethal

Experts say that nearly half of all HIV-positive African adults who become infected with Salmonella die from what otherwise would be a seven-day bout of diarrhoea.

Now, UC Davis School of Medicine scientists have discovered how Salmonella becomes lethal for AIDS patients. Their findings also implicate a mechanism by which HIV evades the powerful drugs used to treat AIDS.

"We have found the defect in the immune response that allows Salmonella to cross the mucosal barrier of the gut, enter the bloodstream and infect other organs," said Andreas Bäuml, a professor of medical microbiology and immunology and co-author of the study.

What is Salmonella?

Salmonella is a type of bacteria, usually found in poultry, eggs, unprocessed milk and in meat and water.

What are the symptoms of Salmonella poisoning?

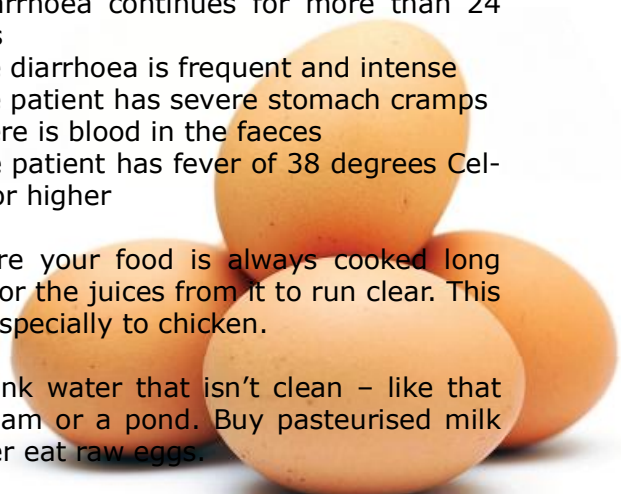
- Stomach cramps
- Diarrhoea or constipation
- Headaches
- Nausea and vomiting
- Fever/high temperature
- Sometimes blood in the faeces

When is it necessary to contact a doctor?

- If the patient is known to be HIV positive
- If diarrhoea continues for more than 24 hours
- If the diarrhoea is frequent and intense
- If the patient has severe stomach cramps
- If there is blood in the faeces
- If the patient has fever of 38 degrees Celsius or higher

Make sure your food is always cooked long enough for the juices from it to run clear. This applies especially to chicken.

Don't drink water that isn't clean – like that from a dam or a pond. Buy pasteurised milk and never eat raw eggs.



DID YOU KNOW?

HIV is a microscopic virus that only measures 1/10,000 of a millimetre in diameter. It is too small to be viewed with an ordinary microscope, but can be seen clearly with an electron microscope.

Test your

HIV/AIDS KNOWLEDGE

A - HIV is believed to have evolved from a similar virus found in which animal?

1. Baboon
2. Chimpanzee
3. Elephant
4. Guinea pig

B - Which of these drugs is most commonly used on its own to reduce mother to child HIV transmission?

1. Nevirapine
2. Indinavir
3. Delavirdine
4. Aspirin

C - Which famous 1950s American movie star died of AIDS on 3rd October, 1985?

1. Errol Flynn
2. James Dean
3. Humphrey Bogart
4. Rock Hudson

D - Which rare cancer is often associated with AIDS?

1. Squamous cell carcinoma
2. Mesothelioma
3. Kaposi's sarcoma

In what year was the first World AIDS Day?

1. 1984
2. 1986
3. 1988
4. 1990

A: 2 - Chimpanzee
B: 1 - Nevirapine
C: 4 - Rock Hudson
D: 3 - Kaposi's sarcoma
E: 3 - 1988

ANSWERS

Botswana encourages youth to get tested

At a recent event marking the Month of Youth against AIDS in the Botswana capital Gaborone, government officials encouraged young people to get tested for HIV and to abstain from high-risk behaviour.

Senior superintendent Kabo Marage at the event said that the people most affected by the disease in Botswana are between ages 14 and 49, adding that it is imperative for young people to know their HIV status and to use all available resources to reduce the spread of the virus.

Oaitse Mbaiwa of the Botswana National Youth Council called on young people to take responsibility for their health by knowing their HIV status, saying that these events are designed to increase awareness among young people and for them to take the lead in the fight against HIV/AIDS. Mbaiwa also encouraged young couples to get tested for HIV together.

The event had the theme "Commit to Zero Transmission Lifestyle: Youth Leading in HIV/AIDS Management and Wellness Promotion", a theme the Botswana authorities hope that young people will take to heart.

HIV+ pregnant woman asks ...

Question: I am HIV-positive and pregnant. Will my baby be born with HIV?

Answer: Being an HIV-positive mother-to-be does not guarantee that your child will be born HIV-positive. HIV transmission usually occurs during delivery, but can also before birth in the mother's womb.

If an HIV-positive mother receives appropriate care throughout her pregnancy, including medication to lower the amount of virus in her blood, HIV may not spread to the child.

Without treatment, however, the risk of HIV transmission to the child is higher. But with medications taken regularly throughout the pregnancy, as well as delivery by Caesarian section, the risk of transmission is lowered dramatically - to about a 1-2 per cent chance of transmission.

It is important to note that all children are born with their mother's antibodies, and will therefore test positive on HIV antibody screening tests, regardless of their actual status. These antibodies will usually clear sometime between 6-18 months after birth, and viral load testing can be done around 6 months to determine the infant's actual status.

Note: Mothers-to-be should have regular check-ups, and inform their doctor of their HIV status so that these risk reduction steps can be taken.

