

ECHO

Education and Communication for Hemophiliacs and Others

Volume 4, Number 1 May, 1983

What is AIDS? How can persons with hemophilia handle anxiety about AIDS? Will emotional stress from AIDS contribute to bleeding? Will fear of AIDS lead patients to cut back on treatment? What connection has AIDS with hemophilia? How many persons with hemophilia have been afflicted with AIDS? What opportunistic diseases have the hemophilia AIDS patients had? What blood products have hemophilia AIDS patients used? Have all hemophilia AIDS patients been heterosexual? What is the age range of hemophilia AIDS patients? Are both cryoprecipitate and concentrate potentially at risk of AIDS? What should a person with hemophilia do if he notes any of the AIDS symptoms? Have there been reported cases of AIDS internationally? Has anyone other than those people in the four high-risk categories contracted AIDS? How many women have contracted AIDS? What is the AIDS incubation period? Should AIDS be a reason for change?

FOREWORD

Dear ECHO Reader:

This issue of ECHO will be devoted to one topic: Acquired Immune Deficiency Syndrome, or AIDS. AIDS is a new mystery disease that breaks down the body's natural ability to fight diseases, leaving patients vulnerable to serious infections, a form of cancer (Kaposi's Sarcoma), or both. Initially identified in homosexual males, intravenous drug users and Haitians, it has been reported that AIDS has been discovered in 12 patients with hemophilia.

Given that the cause of AIDS has not been determined, and that this syndrome continues to elude researchers, one of the best forms of defense against AIDS is awareness of and education about the disease. Every person with hemophilia and his family should be apprised of the syndrome's symptoms, effects and the research efforts presently underway.

That's where ECHO comes in. The information on the following pages is the latest received from medical centers across the country, the National Hemophilia Foundation and the Centers for Disease Control (CDC) in Atlanta. It is important to recognize that the statistics presented here are sub-

ject to change since incidences of the disease continue to rise and research undertaken continues to develop. This is the most up-to-date information received as of April 5, 1983.

We at Cutter want you to know that your welfare is our prime concern. We are doing everything possible to help researchers diagnose the syndrome as well as implement precautionary measures designed to minimize the risk for the person with hemophilia. And since we are committed to keeping you constantly informed, future issues of ECHO will include an AIDS update.

Providing this information is one step. Working together to secure your good health is our ultimate goal.

Sincerely yours,



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ECHO would like to thank the following physicians who contributed their time and expertise to this special issue. Their insights and experience with AIDS were invaluable in providing information for the articles within.

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AIDS: THE UNFOLDING STORY

AIDS, the mysterious disease that first concerned health officials 18 months ago, so far has been diagnosed in more than 1200 people, over a third of whom have since died.

Since 1979, the number of AIDS cases has reportedly doubled every six months.

Known as Acquired Immune Deficiency Syndrome, or AIDS, the new disease causes a breakdown of the body's natural defenses against infections by viruses, fungi and protozoa, leaving patients vulnerable to infections, cancer, or both. Yet, despite intensive efforts to isolate the cause of AIDS, medical investigators still have few answers.

Until recently, AIDS had been discovered primarily in three groups: homosexual males, drug abusers who used unsterilized needles, and Haitians. More recently, persons with hemophilia have been another identifiable group. Additionally, researchers have detected incidences of AIDS in apparently healthy heterosexual females and children, indicating that the general population may also be susceptible to the disease.

AIDS is a new disease syndrome that seems to begin with such common symptoms as recurrent fevers, swollen lymph glands, loss of weight and appetite and a general "rundown" feeling. The symptoms gradually become worse over a period of two to three months.

In hemophiliacs, an AIDS "syndrome" (or prodrome) has been characterized by these same symptoms (e.g., fever, weight loss, generalized lymphadenopathy).

However, it is not known whether this syndrome is a precursor or a complete "AIDS" expression.

It has been reported that 28% of AIDS patients have developed a type of cancer, called Kaposi's Sarcoma (KS), that until now had been extremely rare in the U.S. KS is often characterized by the sudden appearance of bluish or brownish spots and growths, usually on the legs. To date, AIDS patients with hemophilia have not

been reported to develop Kaposi's Sarcoma.

AIDS patients can go on to contract opportunistic infections that rarely afflict healthy individuals. *Pneumocystis carinii* pneumonia, or PCP, is the most frequent and has been the primary infection of hemophilia patients with AIDS.

Some of the more than 50 medical investigators at the Centers for Disease Control (CDC) who are studying the disease are of the opinion that AIDS patients have an extremely high mortality rate.

The AIDS syndrome first was identified in late 1980 and early 1981 among sexually active male homosexuals living in three major metropolitan areas: New York, Los Angeles and San Francisco. Then several drug users were also stricken with AIDS and cases of the disease were confirmed among Haitians who had entered the U.S. within the last five years. Finally, AIDS was reported in three hemophiliacs.

Under one theory, researchers have speculated that there may be a genetic predisposition that causes AIDS in some people and not others.

Under another theory, scientists began to suspect a parallel between AIDS and hepatitis B, since vulnerability to this disease was a common link among AIDS victims.

Hepatitis B can be transmitted by carriers who have no symptoms. It is caused by a virus that is harbored in blood, semen and other body fluids. It is common among homosexual men, particularly the more promiscuous, where it is transmitted sexu-

ALL AIDS CASES TO DATE

As of April 5, 1983, the 1,279 reported cases of AIDS break down as follows:

	#
Homosexual/Bisexual	916
IV Drug Users	214
Haitians	64
Hemophiliacs*	12
*one hemophiliac was also an IV drug user.	
Non-category/Unknown	73
Total	1,279

Homosexual men	787
Bisexual men	129
Heterosexual men	239
Unknown sexual prefer.	43
Females	74
No sexual contact	7
Total	1,279

The CDC has recorded the following incidence of Kaposi's Sarcoma, *Pneumocystis carinii* pneumonia (PCP), and other opportunistic infections in persons in the USA:

	#	%
KS	354	28%
PCP	640	50%
Both KS and PCP	103	8%
*Other opportunistic infections	182	14%

*i.e., herpes or other virus, bacteria or microorganisms that rarely cause serious disease in healthy humans.

ally. (Breaks in or inflammation of the intestinal lining from intestinal irritation and abrasion during sex may afford viruses and other organisms present in semen direct access to the bloodstream and thus to the immune system.) Hepatitis B also frequently occurs among drug abusers who use unsterile needles, and it may spread to the general population through blood transfusions or other blood products. There is as yet no scientific proof to date that AIDS is caused by a viral transmissible agent.

The recent discovery of AIDS in heterosexual women had im-

portant implications with regard to the cause and mode of transmission of the disease. Most of these women were closely associated with drug abuse either by personal use or close sexual contact with a drug abuser. This may indicate that susceptibility to AIDS in previously healthy women may involve a transmissible agent that can be acquired through intimate heterosexual contact. Although AIDS has been reported in children, it is even more difficult to diagnose these cases because there are some childhood conditions also known to cause immunosuppression.

hemophilia treatment centers and affiliates, and has obtained special federal funding for AIDS research for the CDC plus increased funding for NIH. Through the CDC, NHF is being funded by the Division of Blood Diseases and Resources to develop an AIDS data base on populations at risk. Moreover, periodic advisories and medical bulletins are being sent to NHF chapters; AIDS-related publications are being prepared for distribution; and the foundation is serving as an information liaison to national news media. Finally, a special AIDS Fund has been established at NHF to receive AIDS-restricted funds to support ongoing work and research.

Efforts to combat AIDS are also being undertaken by hemophilia treatment centers as well as local and regional hemophilia chapters, which have held education forums and information sessions to discuss AIDS. The Council of Community Blood Centers has distributed a newsletter to regional blood centers with updates on AIDS.

The National Cancer Institute is requesting an extra \$2.5 million in its fiscal 1983 budget for research on Kaposi's Sarcoma and has already set aside \$1 million to finance research on the subject.

There are AIDS information hot line centers set up by the homosexual community in San Francisco, Atlanta, Philadelphia and Houston. And the National Gay Task Force has agreed to work with a noted researcher at Mt. Sinai Medical Center on an enormous case-control study that may eventually involve several thousand people.

WHAT IS BEING DONE TO UNCOVER THE MYSTERY AGENT?

The CDC has assigned more than 50 investigators to the Acquired Immune Deficiency Syndrome Task Force established in the summer of 1981. Other laboratory and support personnel working part-time raise to well over 100 the number of federal health workers involved in tracking AIDS. In addition, specialists in virology, immunology, epidemiology, dermatology, serology, hematology, oncology, ophthalmology, pathology and molecular biology have been doing basic scientific work on the syndrome at major centers around the country.

The CDC met on January 4 with federal and health officials, concentrate manufacturers, the Red Cross and community blood banks to discuss AIDS. It then sent, for review, a summary of the meeting with tentative recommendations to the Assistant Sec-

retary for Health of the U.S. Department of Health and Human Services. Final recommendations were published March 4 in the CDC Morbidity and Mortality Weekly Report.

The National Hemophilia Foundation (NHF) has established a Medical and Scientific Advisory Council that released recommendations to physicians, concentrate manufacturers and regional and community blood centers on how to minimize AIDS in people with hemophilia. The NHF is maintaining ongoing contact with the multi-agency Public Health Task Group established by the Assistant Secretary for Health; the Food and Drug Administration; the National Institutes of Health (NIH); and the CDC. In addition, NHF is working collaboratively with the CDC on a nationwide epidemiologic survey of all

PUT AIDS DISEASE IN PERSPECTIVE, SAYS NHF OFFICIAL

Dr. Louts M. Aledort is medical co-director of the National Hemophilia Foundation and professor of medicine at Mt. Sinai Hospital in New York. Some of the questions we asked him are: What does Acquired Immune Deficiency Syndrome mean to a person with hemophilia? Is it a disease so threatening that changes in therapy and life-style are called for?

"Let's put this in perspective," says Dr. Aledort. "AIDS is a dreadful, terrible disease that is frightening. Hemophiliacs are frightened and we understand that they are frightened because this is another burden that they are now given as part of having hemophilia. But *whether* and *if* and *how* it relates to their therapy is completely unclear."

"AIDS," Aledort continues, "should not be viewed as a 'panic signal' or a reason to change a hemophilia patient's therapy."

"Hemophiliacs are fortunate to live in an era where there are readily available, reasonably priced products to treat their condition," he says. "And the proliferation of home-care programs has made the life-style of the hemophiliac as close to normal as anyone could have ever dreamed. So if you look at what you have available to treat yourself for bleeding, like every medicine for every disease there are hazards and complications and trade-offs."

This is not the first time people with hemophilia have been forced to deal with complications associated with the Fac-

tor VIII concentrate. Since the concentrate is manufactured from the blood of thousands of donors, there has always been the risk of hepatitis, high blood pressure and liver and kidney disease.

Although the CDC has said that AIDS is now the second largest cause for death of hemophilia patients (accounting for 10% of deaths in the hemophilia population), Dr. Aledort believes people must not forget what the number one cause is: 37 percent of patients died of bleeding last year. "So you have to look at what you're trading off if you give up your therapy," says Aledort. "By stopping or reducing therapy, a person may run a greater risk of serious bleeding."

"AIDS should not be viewed as a 'panic signal' or a reason to change a hemophilia patient's therapy."

What, then, should hemophiliacs do? The best advice is to lead as normal a life as possible, according to Aledort. **There is no evidence to support that AIDS is transmitted in either cryo-precipitate or concentrate, although it is possible.** He stressed that any decision to change therapy should be carefully made between the patient and his doctor.

Further, he feels that fear of

AIDS should not lead hemophiliacs to cut down on treatment.

"Reducing treatment could lead to joint damage," Aledort says.

What should patients do if they suspect they have AIDS? "If you're really worried that you have something, go to your comprehensive care center — don't sit at home scared," Aledort explains. "The physicians there are the ones who can do something. They treat hemophilia all the time and have a broader-based concept of what is normal and abnormal in the hemophilia populations. For those who go to the care center on a regular basis, their medical history is very well known. Any real changes will be spotted." Aledort pointed out that only 50% of hemophiliacs in the U.S. today visit a comprehensive care center regularly.

If you don't already know the comprehensive care center nearest you, contact the National Hemophilia Foundation, 19 W. 34th Street, Suite 1204, New York City 10001 (212) 563-0211, or your local chapter.

While much is still unknown about the disease, centers across the country are carefully studying AIDS in general, and as it relates to hemophilia. But, cautions Aledort, it may take years to identify the causes of the disease. "We recognized hepatitis B was killing people in the U.S. for years before we knew what it was," he says. "It took a Nobel laureate to find a way to identify hepatitis B. And even now, we still can't do diagnostic tests to find non-A and non-B hepatitis, which may be causing liver disease in patients."

FEAR OF AIDS CAN BE STRESSFUL: HERE'S WHAT YOU CAN DO

Dr. David Agle, professor of psychiatry at University Hospitals of Cleveland, is a specialist in stress management as it relates to hemophiliacs. We spoke with him to find out how persons with hemophilia can cope with stress and anxiety resulting from fear of AIDS.

Q Dr. Agle, how can persons with hemophilia handle anxiety about AIDS?

A They should go to the experts to get factual information about the disease. There should be a major dialogue developing between the treaters and the patients in an individual way or in group meetings. This helps patients ventilate their feelings, which is helpful in reducing stress. It's important to be able to say that you're scared or angry and have the treating staff hear you and say, "We understand and we're going to continue to work with you." If there's not an open dialogue, rumors really start to fly and they're usually much worse than the facts.

Then there are treatment decisions to make and they should be made with the advice of a physician. If there is some justifiable reason to switch to cryoprecipitate, that's a decision that the entire family should be involved in making with the advice of their treating center.

The main thing is to have open communication with the center. When it gets cut off, the psychological reactions could be worse.

Q Bleeding is sometimes caused just by emotional stress. Do you think that AIDS is contributing to this?

A I've had no data to suggest this. We really know very little about the psychological reactions to AIDS. AIDS causes a different sort of stress. The association with homosexuality and drug abuse taints it — like guilt by association. All that is unknown about AIDS makes it more of a stress.

Q What are some of your concerns about AIDS from a psychological viewpoint?

A Fear of the disease may disrupt the relationship between the patient/family and the treater. The whole uncertainty of what treatment to prescribe adds to the problem. The uncertainty in the doctors makes it much harder for patients to handle because they look to the doctors to reassure them.

One of the worst things that can happen to the patient is to get a sense that his concerns are being ignored by the doctor. That makes a patient feel isolated and all the more frightened. The communication lines have to be kept open because even though there is some uncertainty about what to do, it's reassuring to the patient to have the sense that the doctor and he are working on it together. If you're saying, "Why can't someone give them a final solution to the problem," that's something that's not available right now. But the patient needs reassurance that major work is being done to get that final solution.

Q Do you think fear of AIDS will lead patients to cut back on treatment?

A There are no data on that but I think it's likely to occur. Doctors have to give patients the facts about the real dangers of not treating their bleeds properly as opposed to the more remote danger of AIDS.

The following are recommendations Dr. Agle has made to the National Hemophilia Foundation:

1. There should be a continued flow of factual, updated information to patients from the National Hemophilia Foundation and the CDC.
2. Treatment centers should do the same thing but also develop a dialogue between themselves and patients.
3. All doctors and treaters should examine their own feelings about AIDS. Nobody likes uncertainty. Doctors should make sure that their uncertainties about therapy are not in some way interfering with the quality of their medical care. Also, doctors should not stop communicating with patients because these uncertainties make them uncomfortable.
4. Doctors should be alert to major psychological problems that may develop in patients. The sooner they're treated the better. Comprehensive care centers should be staffed with mental health personnel who are able to recognize psychological problems quickly.

ANSWERS TO BASIC QUESTIONS PATIENTS WITH HEMOPHILIA MIGHT ASK ABOUT AIDS

What connection has AIDS with hemophilia?

Since the cause of AIDS is unknown, so is its connection to hemophilia. One of the theories is that AIDS is caused by an agent, such as a virus, that can be carried in the blood. Those with hemophilia may receive large amounts of donors' blood plasma and blood plasma products. If people who have been exposed to AIDS or people who have AIDS donate blood or plasma, the mystery agent may find its way to blood plasma products. Thus, if someone receives a blood transfusion during surgery and the donor is a carrier, the patient may become infected with the mystery disease. If this is so, the risk might also exist for cryoprecipitate and concentrate products. But this is only "theory" at the present time.

How many persons with hemophilia have been afflicted with AIDS?

Twelve persons with hemophilia have been reported to have opportunistic infections. Nine have died from them. In addition, some people with hemophilia have shown changes in their lymphocyte count similar to those seen in AIDS or in illnesses that might represent a minimal manifestation of AIDS. Presently, it is unknown whether lymphocyte abnormalities seen in AIDS patients are characteristic of people with hemophilia in general, or of those on concentrates (whether or not donors included persons with AIDS). Indeed, many individuals observed in the hemophiliac population studies who have shown lymphocyte abnormalities

are robustly healthy.

What opportunistic diseases have the hemophilia AIDS patients had?

Seven of the patients suffered from *Pneumocystis carinii* pneumonia (PCP); one from disseminated *Histoplasma capsulatum* (a fungus that can cause acute pneumonia) and candidiasis of the esophagus; and one from Herpes Zoster or shingles.

What blood products have these people used?

Eleven of the patients have regularly used Factor VIII concentrate

of various manufacturers. One used Factor IX. All but one had been infused with other blood or plasma products during the past year. There is no conclusive evidence to suggest that there is a higher risk of contracting AIDS by users of concentrate versus users of cryoprecipitate.

Have all these patients with hemophilia been heterosexual?

According to three CDC reports, none of the patients appear to be part of the homosexual high-risk group.

ORTHOPAEDIC HOSPITAL RESUMES ELECTIVE SURGERY

Orthopaedic Hospital in Los Angeles, California will not withhold or defer elective orthopedic surgery for the patient with hemophilia solely on the basis of incurring the risk of AIDS.

According to Shelby Dietrich, M.D., director of the hospital's Hemophilia Center, it is clearly important to weigh the risk/benefit ratio to evaluate each individual's surgical status. For example, in some cases, elective orthopedic surgery may in the long term reduce the overall amount of blood products used by the patient.

The following is a statement released by Orthopaedic Hospital:

"Hemophilia is a chronic, life-long disease with well-documented morbidity and mortality. Adequate therapeutic measures

are available to improve both length and quality of life. Orthopedic treatment, surgical and non-surgical, can make a major contribution to the hemophilia patient's welfare.

"In analyzing the benefit/risk ratio factors in elective orthopedic surgery, it is noted that in certain cases elective orthopedic surgery may reduce the overall amount of blood products (concentrate or cryoprecipitate) used in the long term by alleviating orthopedic problems. The risk/benefit ratio is important in evaluating each specific individual's surgical status.

"Elective orthopedic surgery on the patient with hemophilia should not be withheld or deferred solely on the basis of incurring the risk of the AIDS prodrome or syndrome."

What is the age range of these patients?

7 - 62 years.

In which states did these patients live?

The patients came from several different states, including Florida, Colorado, Ohio, Alabama, Missouri, New Jersey, California, Illinois, Pennsylvania, New York and Connecticut.

Are both cryoprecipitate and concentrate potentially at risk?

If AIDS is transmissible through red plasma (this has not yet been determined), both could be involved. Scientific authorities recommend that hemophilia patients who do not have AIDS symptoms should maintain their regular treatment and life-style unless otherwise advised by their physician.

What can patients with hemophilia do to lessen the chance of getting AIDS?

Physicians have suggested that patients lead as normal a life as possible as there is no known deterrent to the disease at the present time. Any decision to change therapy should be carefully made between the patient and his physician. People with hemophilia should not let the "stress" of the AIDS issue overwhelm them.

Should people with hemophilia continue to have sexual relations with their wives, or kiss their small children?

Some physicians believe there is not sufficient evidence to justify

interruption of the normal family relationships of people with hemophilia who are in good health. Some physicians feel it might be wise to suspend marital relations if a patient has actually been diagnosed with AIDS. Check with your physician.

What should a person with hemophilia do if he notes any of the symptoms of AIDS?

AIDS manifests itself by the development of several different symptoms that do not normally occur in the otherwise healthy person. If any of these symptoms are noted, a physician should be consulted. It is recommended that the hemophiliac contact his comprehensive care center since the centers are most familiar with problems of hemophilia and are acutely aware of the present problems with AIDS. While there are many other diseases that may cause these symptoms and many of them may not be of a serious nature, it is better to have early evaluation than to ignore an early warning.

Have there been reported cases of AIDS internationally?

There have been about 76 cases of AIDS found in 15 other countries, including Canada, Argentina, Japan, Haiti and countries in western Europe. However, none of these reports involved people with hemophilia, even though some persons with hemophilia use U.S. manufactured concentrates.

Has anyone other than those people in the four high risk**categories contracted AIDS?**

About 70 people in the general population afflicted by AIDS do not fit into the four high-risk groups. This group is mixed and is considered a non-category by the CDC. AIDS has been detected in previously healthy women who were not sexually promiscuous. It is thought that previously healthy individuals may come in contact with the transmissible agent through intimate heterosexual contact. Sex partners of drug addicts, bisexuals, patients who have had blood transfusions and persons in households of homosexuals have also been reported to have AIDS.

How many women have contracted AIDS?

About 70 females have AIDS versus about 1200 males. None of these women have hemophilia.

What is the incubation period for AIDS?

While the incubation period has not been confirmed, there is some indication that the time between exposure and actual diagnosed symptoms can range from 6 to 24 months. The average is estimated at 12 to 14 months.

What are the main causes of death in the hemophilia population and where does AIDS fit in?

Bleeding is still the number one cause, accounting for 37% of deaths. According to the CDC, 10% of deaths in 1982 were from AIDS. Other causes were: cancer, 9%; heart disease, 6.3%; liver disease, 6.3%; trauma, 6.3%; and suicide, 6.3%.

WHAT ARE SOME OF THE STEPS FOR DIAGNOSING SUSPECTED AIDS SYMPTOMS?

Physicians say that hemophilia patients who suspect they have symptoms of AIDS should not rush out to have expensive tests performed as the first step in a diagnostic procedure.

The most important step is visiting a comprehensive care center where staff have a high awareness of the symptoms of the disease, or where there is a physician with experience in treating AIDS.

Although only half of hemophilia patients regularly visit a comprehensive care center, medical professionals now advise everyone to go. Patients at these centers undergo a complete physical examination once or twice a year. These examinations enable a physician to follow a patient's medical history and evaluate any suspected symptoms.

While there are no easy answers in diagnosing AIDS, here are some of the steps that may be taken if it is suspected that a person has the disease.

- Complete physical examination (if one has not been done recently) and evaluation of medical history.

- Routine tests such as CBC (complete blood count), a differential (an evaluation of the white blood cells) or tests for immunoglobulins and immune complexes. An Anergy Panel (skin test) might be performed to determine whether there are diminished reactions to specific antigens. This would involve injecting small amounts of certain antigens such as mumps or candida in the skin. If there is a normal reaction to these common antigens, the patient's immune system is probably functioning.

- If screening tests, medical history and examination indicate that a problem may exist, a physician might proceed to the next level, which is specific lymphocyte functional tests (T-cell function). However, these tests are very expensive (from \$300 to \$1,000), are difficult to interpret and do not always prove that a patient has AIDS. A spokesman from the National Hemophilia Foundation says that many hemophiliacs have abnor-

mal T-cell ratios while their immune systems continue to function normally. Physicians who were contacted say they do *not* recommend that patients request T-cell tests just to see if ratios are abnormal. This will *not* tell whether a person has AIDS or if he may later be affected. Physicians stress that these so-called AIDS signs and symptoms are non-specific. But, if symptoms persist, a doctor should be consulted.

TWO RESEARCH POSSIBILITIES INVESTIGATED FOR AIDS

The recent discovery of what looks like Acquired Immune Deficiency Syndrome in monkeys may prove valuable in research efforts to uncover the mystery disease.

Researchers at the New England Regional Primate Research Center have reported that Rhesus and other short-tailed monkeys of both sexes have shown symptoms of unusual infections, including *Pneumocystis carinii* pneumonia.

Moreover, the California Primate Research Center also revealed syndromes closely resembling AIDS that have affected a group of 64 Rhesus monkeys kept in outdoor cages. Symptoms in this group included lymphadenopathy and opportunistic infections including cytomegalovirus. One animal actually developed a skin symptom that possibly parallels Kaposi's Sarcoma, frequently seen in AIDS patients.

Not all of the symptoms found in the nonhuman primates have been found in humans, and vice versa. However, the Division of Research Resources, National Institutes of Health have discussed the possibility of using the monkeys as animal models to research immune function, transmission of AIDS and the role of viral or toxic agents.

The second discovery is a possible indicator for identifying people at high risk of AIDS, but it is still in the laboratory stage.

A biochemist at George Washington University has reported that thymosin levels in the blood may be an indicator. Studies have also been conducted at M.D. Anderson Hospital in Houston.

Researchers stress that this is not a proven test and that much research is yet to be done.

WHAT IS CUTTER BIOLOGICAL DOING TO MINIMIZE THE RISK OF AIDS?

Due to the mysterious nature of the disease and the lack of substantial answers yet to be found by researchers, Cutter is launching an all-out campaign that includes strict precautionary measures in the procurement of plasma used in the manufacture of concentrate and extensive media publicity notifying members of the high-risk groups that they should voluntarily refrain from donating plasma.

Specifically, the company has implemented an intensive screening program in which all prospective donors will be asked to sign a form certifying that they are not members of high-risk groups; e.g., homosexuals, donors who may have traveled to Haiti within the last several years, and abusers of intravenous drugs.

Cutter will also check donors during the routine physical examination given before initial plasma donation and every three months thereafter. Donors will be asked about or examined for any sudden weight loss, skin lesions, swollen lymph glands, severe diarrhea and fever or chills — symptoms which have been associated with AIDS.

Cutter's plasmapheresis centers are geographically dispersed throughout the country; the company does not have centers in New York, Los Angeles, San Francisco or Miami.

Cutter also is developing a treatment procedure for the concentrate products that it hopes will be as effective in neutralizing transmissible disease agents as procedures in other products. Cutter hopes to submit the new procedure for FDA approval within the next few months. Once

again, since the causative agent or agents aren't known, this is purely a precautionary measure.

As new information or more specific screening procedures are

developed in the nationwide fight against AIDS, we, at Cutter, will continue to take whatever steps possible to optimize the safety of our products.

Cutter owns or contracts with over 80 plasma centers throughout the country. There are no Cutter centers in New York, San Francisco, Los Angeles or Miami, where the vast majority of AIDS cases to date have been reported.

Cutter-owned and affiliated plasma centers are located in the following cities:

Auburn, AL	Fort Wayne, IN	Oklahoma City, OK
Birmingham, AL	Indianapolis, IN	Tulsa, OK
Mobile, AL	Muncie, IN	Eugene, OR
Montgomery, AL	Louisville, KY	Easton, PA
Tuscaloosa, AL	Kansas City, KS	Pittsburgh, PA
Florence, AZ	Baton Rouge, LA	Scranton, PA
Phoenix, AZ	Lafayette, LA	Columbia, SC
Scottsdale, AZ	Ann Arbor, MI	Rapid City, SD
Tempe, AZ	Detroit, MI	Nashville, TN
Berkeley, CA	Flint, MI	Austin, TX
Long Beach, CA	Kalamazoo, MI	Brownsville, TX
Oakland, CA	Lansing, MI	Corpus Christi, TX
Sacramento, CA	Ypsilanti, MI	Dallas, TX
San Diego, CA	Minneapolis, MN	Del Rio, TX
Stockton, CA	Kansas City, MO	Eagle Pass, TX
Colorado Springs, CO	Springfield, MO	El Paso, TX
Denver, CO	Greenville, MS	Houston, TX
Pueblo, CO	Jackson, MS	Laredo, TX
Daytona Beach, FL	Meridian, MS	Lubbock, TX
Fort Lauderdale, FL	Billings, MT	McAllen, TX
Fort Meyer, FL	Lincoln, NE	San Antonio, TX
Gainesville, FL	Albuquerque, NM	Ogden, UT
Jacksonville, FL	Indian Springs, NV	Salt Lake City, UT
Orlando, FL	Las Vegas, NV	Norfolk, VA
Augusta, GA	Stewart, NV	Roanoke, VA
Macon, GA	Cincinnati, OH	Seattle, WA
Davenport, IA	Columbus, OH	Milwaukee, WI
Des Moines, IA		

