

Serotonin $\rightarrow$ lymph product
= laugh therapy

psycho immunology Stanford
Solomon & Hill

AIDS: AN UPDATE

Monday, March 21, 1983
9:00 a.m. to 5:00 p.m.
HSW 303
(Health Sciences West Building)

CE Contact Hours: Provider approved by the California Board of Registered Nursing, Provider Number 00082, for seven and one-half (7.5) contact hours.

NOTE: The next AIDS Conference sponsored by Nursing Education and Research will be in late August or early September. Information may be obtained by calling 666-2993 after June 15.

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FACULTY

All participants are employed
by U.C.S.F. except Jim Geary
and Jeff Mandel.

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Director, Pediatric Immunology and
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Cathie Belford Budd, R.D.
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Jeff Mandel, M.A., M.P.H.
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Clinical Nurse Specialist, Oncology

Carol Viele, R.N., M.S.
Clinical Nurse Specialist, Oncology

Paul A. Volberding, M.D.
Chief, Medical Oncology, S.F.G.H.

Margaret Walter, R.N.
Clinical Nurse II, Oncology

DESCRIPTION

This all-day workshop will present current clinical information on Acquired Immune Deficiency Syndrome (AIDS). Included will be epidemiology, immunology, and a multidisciplinary case study which will discuss patient management and treatment. Research currently in progress will be presented. In addition, a panel of patients will discuss their personal experiences. This workshop will cover the most recent findings in the field. It is planned for nurses, nutritionists, respiratory therapists, social workers and other health care providers.

OBJECTIVES

At the end of this seven-hour workshop on AIDS, you will be able to:

1. Describe the current epidemiologic situation.
2. Identify diagnostic tests which are used to determine the presence and/or course of AIDS.
3. Identify appropriate patient interventions.
4. Utilize a multidisciplinary approach in patient care.
5. Describe potential psychological and/or social difficulties of the AIDS patient.
6. Identify one resource in your community which may be useful to patients.
7. State ways in which you can take care of yourself as you care for these patients.

METHOD OF EVALUATION

Written course evaluation

PROGRAM

8:30	Registration	
9:00	AIDS in Perspective	H. Schietinger
9:15	Underlying Immunological Considerations	J. Harr
10:00	A.M. Refreshments	
10:15	John: A Case Study of AIDS	Panel: C. Viele (Moderator) C. Belford Budd J. Harr S. Hatfield M. Hill L. Rosendorf W. Walter
12:15	Lunch	
1:15	Patient Panel	J. Geary (Moderator)
1:45	Research in Progress: Three Reports	M. Gorman J. Mandel M. Neely
2:45	Break	
3:00	Pediatric Implications of AIDS	A. Ammann
3:30	Treatment Modalities	P. Volberding
4:00	How Do We Take Care of Ourselves?	A. Lewis
4:15	Questions and Answers	
5:00	Adjourn	

Research on AIDS

FDA is working with other PHS agencies in several areas of research related to Acquired Immune Deficiency Syndrome (AIDS).

AIDS is a newly defined syndrome of high mortality and morbidity that has been seen since 1979 predominantly among homosexuals, intravenous drug abusers, Haitians, and persons with hemophilia A. The incidence of diagnosed AIDS is increasing markedly.

The cause of the immunosuppression is not known, but patients generally have evidence of defective cellular immunity, including lymphopenia and decreased ratios of helper to suppressor T-lymphocytes. Cutaneous anergy, decreased natural killer (NK) cells, and diminished proliferative responses to mitogens and specific antigens are also sometimes observed. Neutrophil function appears normal, and immunoglobulin levels are normal or elevated.¹

Case Definition

The Centers for Disease Control define 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 of diminished resistance to that disease." Such diseases include Kaposi's sarcoma (KS), *Pneumocystis carinii* pneumonia, and other "opportunistic" infections such as pneumonia, meningitis, or encephalitis due to one or more of the following: aspergillus, candida, cryptococcosis, cytomegalovirus, nocardia, strongyloides, toxoplasma, zygomycosis, or atypical mycobacteria; esophagitis due to candida, cytomegalovirus, or herpes simplex virus; progressive multifocal leukoencephalopathy; chronic enterocolitis (more than 4 weeks) due to cryptosporidiosis; or unusually extensive mucocutaneous herpes simplex of more than 5 weeks duration.²

For epidemiologic purposes, CDC has established several exclusion criteria which include a patient's having received immunosuppressive therapy, such as corticosteroids, and a patient's having Hodgkin's disease or other lymphoma. CDC also will exclude, on a case-by-case basis, other patients with conditions that may predispose them to certain diseases seen in AIDS patients.

CDC received reports of 732 cases of AIDS (including 284 deaths) from June 1, 1981, to Nov. 12, 1982. Of the total cases, 73 percent occurred among homosexual or bisexual men, 4 percent

among men of unknown sexual orientation, 6 percent among women, and 16 percent among heterosexual men. Of the total cases, 21 percent were among intravenous drug abusers, 6 percent were Haitians with no history of homosexual activity or intravenous drug abuse, and 0.8 percent were hemophiliacs.

Occurrence of AIDS among hemophiliacs has raised the question of whether the syndrome may be transmitted through blood products such as Factor VIII, as is hepatitis B and non-A-non-B hepatitis. FDA is investigating this hypothesis. There have been six cases of *Pneumocystis carinii* pneumonia with other opportunistic infections in hemophiliacs.

Analysis of cases of AIDS reported to CDC between June 1, 1981, and Nov. 12, 1982, shows that 50 percent had *Pneumocystis carinii* pneumonia without KS; 30 percent had KS without *Pneumocystis carinii* pneumonia; 7 percent had both *Pneumocystis carinii* pneumonia and KS; and 12 percent had other opportunistic infections. The mortality rate for cases of *Pneumocystis carinii* pneumonia without KS was 45 percent, and for KS without *Pneumocystis carinii* pneumonia, 20 percent. Cases with both *Pneumocystis carinii* pneumonia and KS had a mortality rate of 60 percent. Those with other opportunistic infections had a mortality rate of 47 percent. Cases have been reported from 52 states, with almost 80 percent concentrated in six metropolitan areas mainly on the east and west coasts of the country.²

Treatment

Treatment of patients with AIDS is challenging because they often have multiple opportunistic infections, and there are a limited number of drugs available to treat these ailments. Some suggestions concerning therapy, including an overview of commercially available drugs, were made at a recent conference of the American Society for Microbiology at the Memorial Sloan-Kettering Cancer Center.³

FDA is working to facilitate the availability of an Investigational New Drug Application (IND) to permit the New York City Health Department to store and distribute to qualified clinicians Ansamycin, a rifampicin derivative that is an investigational drug. Ansamycin is useful in treating infections caused by *Mycobacterium avium*, one of the opportunistic infections that has been seen in patients with AIDS. (*Mycobacterium avium* is an avian type of tuberculosis, commonly producing disease in chickens and swine but rarely in humans.)

FDA is also investigating whether the veterinary drug amprolium can be used safely in humans to treat cryptosporidiosis, a protozoan infection usually found in cattle, but which has been reported in persons with AIDS.

The agency is collaborating with CDC in studying serum samples from AIDS victims. In clinical studies of homosexual men with and without AIDS, government researchers have found additional defects in cellular immunity to those described in the literature.¹⁻⁸

Health professionals should be aware that AIDS may manifest itself in milder forms than specified in the case definition, and initial signs and symptoms may continue for months before a serious disease is apparent.⁵

Practitioners should consider the possibility of AIDS in patients with unexplained, chronic fever, weight loss, or generalized, persistent lymphadenopathy.

Health professionals should report all cases of confirmed or suspected AIDS to CDC through their local or state health departments. Even in cases in which there are uncertainties, such as when exclusion criteria are present, CDC would like to receive and screen the reports.

References:

1. Gold JWM: Infections in patients with acquired immunologic deficiency. In Proceedings of ASM Conference on Infections of Homosexual Men and AIDS, Memorial Sloan-Kettering Cancer Center, New York City, Sept. 8-10, 1982.
2. Current Trends: Update on acquired immunodeficiency syndrome (AIDS)—United States. *MMWR* 1982; 31(37): 507-514; and CDC, personal communication, Nov. 15, 1982.
3. Roberts RB: Treatment of opportunistic infections in patients with acquired immunodeficiency syndrome. In Proceedings of ASM Conference on Infections of Homosexual Men and AIDS, Memorial Sloan-Kettering Cancer Center, New York City, Sept. 8-10, 1982.
4. Kornfeld H, Strouwe RAV, et al: T-lymphocyte subpopulations in homosexual men. *N Engl J Med* 1982; 307(12): 729-31.
5. Centers for Disease Control Task Force on Kaposi's Sarcoma and Opportunistic Infections. Epidemiologic aspects of the current outbreak of Kaposi's sarcoma and opportunistic infections. *N Engl J Med* 1982; 306(4): 248-52.
6. Gottlieb MS, Schroff R, et al: *Pneumocystis carinii* pneumonia and mucocutaneous candidiasis in previously healthy homosexual men: evidence of a new severe acquired cellular immunodeficiency. *N Engl J Med* 1981; 305: 1423-31.
7. Masur H, Michelis MA, et al: An outbreak of community-acquired *Pneumocystis carinii* pneumonia. *N Engl J Med* 1981; 305: 1431-8.
8. Seigal FP, Lopez C, et al: Severe acquired immunodeficiency in male homosexuals, manifested by chronic perianal ulcerative herpes simplex lesions. *New Engl J Med* 1981; 305: 1439-44.



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 515 Subscription to MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

Update on Acquired Immune Deficiency Syndrome (AIDS) — United States

Between June 1, 1981, and September 15, 1982, CDC received reports of 593 cases of acquired immune deficiency syndrome (AIDS).^{*} Death occurred in 243 cases (41%).

Analysis of reported AIDS cases shows that 51% had *Pneumocystis carinii* pneumonia (PCP) without Kaposi's sarcoma (KS) (with or without other "opportunistic" infections [OOI] predictive of cellular immunodeficiency); 30% had KS without PCP (with or without OOI); 7% had both PCP and KS (with or without OOI); and 12% had OOI with neither PCP nor KS. The overall mortality rate for cases of PCP without KS (47%) was more than twice that for cases of KS without PCP (21%), while the rate for cases of both PCP and KS (68%) was more than three times as great. The mortality rate for OOI with neither KS nor PCP was 48%.

The incidence of AIDS by date of diagnosis (assuming an almost constant population at risk) has roughly doubled every half-year since the second half of 1979 (Table 1). An average of one to two cases are now diagnosed every day. Although the overall case-mortality rate for the current total of 593 is 41%, the rate exceeds 60% for cases diagnosed over a year ago.

Almost 80% of reported AIDS cases in the United States were concentrated in six metropolitan areas, predominantly on the east and west coasts of the country (Table 2). This distribution was not simply a reflection of population size in those areas; for example, the number of cases per million population reported from June 1, 1981, to September 15, 1982, in New York City and San Francisco was roughly 10 times greater than that of the entire country. The 593 cases were reported among residents of 27 states and the District of Columbia, and CDC has received additional reports of 41 cases from 10 foreign countries.

Approximately 75% of AIDS cases occurred among homosexual or bisexual males (Table 3), among whom the reported prevalence of intravenous drug abuse was 12%. Among the 20% of known heterosexual cases (males and females), the prevalence of intravenous drug abuse was about 60%. Haitians residing in the United States constituted 6.1% of all cases (2), and 50% of the cases in which both homosexual activity and intravenous drug abuse were denied. Among the 14 AIDS cases involving males under 60 years old who were not homosexuals, intravenous drug abusers, or Haitians, two (14%) had hemophilia A.[†] (3)

^{*}Formerly referred to as Kaposi's sarcoma and opportunistic infections in previously healthy persons. (1)

[†]A third hemophiliac with pneumocystosis exceeded the 60-year age limit of the AIDS case definition.

TABLE 1. Reported cases and case-mortality rates of AIDS, by half-year of diagnosis,^{*} 1979-1982, (as of September 15, 1982) — United States

Half-year of diagnosis		Cases	Deaths	Case-mortality rate (%)
1979	1st half	1	1	100
	2nd half	6	5	83
1980	1st half	17	13	76
	2nd half	26	22	85
1981	1st half	66	46	70
	2nd half	141	79	56
1982	1st half	249	67	27

^{*}Excluding 4 cases with unknown dates of diagnosis

Reported AIDS cases may be separated into groups based on these risk factors: homosexual or bisexual males—75%, intravenous drug abusers with no history of male homosexual activity—13%, Haitians with neither a history of homosexuality nor a history of intravenous drug abuse—6%, persons with hemophilia A who were not Haitians, homosexuals, or intravenous drug abusers—0.3%, and persons in none of the other groups—5%.

Reported by the Task Force on Acquired Immune Deficiency Syndrome, CDC

§These infections include pneumonia, meningitis, or encephalitis due to one or more of the following: aspergillosis, candidiasis, cryptococcosis, cytomegalovirus, nocardiosis, strongyloidosis, toxoplasmosis, zygomycosis, or atypical mycobacteriosis (species other than tuberculosis or lepra); esophagitis due to candidiasis, cytomegalovirus, or herpes simplex virus; progressive multifocal leukoencephalopathy; chronic enterocolitis (more than 4 weeks) due to cryptosporidiosis; or unusually extensive mucocutaneous herpes simplex of more than 5 weeks duration.

Editorial Note: 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 OOI.[§] Diagnoses are considered to fit the case definition only if based on sufficiently reliable methods (generally histology or culture). However, this case definition may not include the full spectrum of AIDS manifestations, which may range from absence of symptoms (despite laboratory evidence of immune deficiency) to non-specific symptoms (e.g., fever, weight loss, generalized, persistent lymphadenopathy) (4) to specific diseases that are insufficiently predictive of cellular immunodeficiency to be included in incidence monitoring (e.g., tuberculosis, oral candidiasis, herpes zoster) to malignant neoplasms that cause, as well as result from, immunodeficiency[¶] (5). Conversely, 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. Absence of a reliable, inexpensive, widely available test for AIDS, however, may make the working case definition the best currently available for incidence monitoring.

Two points in this update deserve emphasis. First, the eventual case-mortality rate of AIDS, a few years after diagnosis, may be far greater than the 41% overall case-mortality rate noted above. Second, the reported incidence of AIDS has continued to increase rapidly. Only a small percentage of cases have none of the identified risk factors (male homosexuality, intravenous drug abuse, Haitian origin, and perhaps hemophilia A). To avoid a reporting bias, physicians should report cases regardless of the absence of these factors.

Physicians aware of patients fitting the case definition for AIDS are requested to report such cases to CDC through their local or state health departments.

References

1. CDC. Update on Kaposi's sarcoma and opportunistic infections in previously healthy persons - United States. MMWR 1982;31:294, 300-1.
2. CDC. Opportunistic infections and Kaposi's sarcoma among Haitians in the United States. MMW 1982;31:353-4, 360-1.
3. CDC. *Pneumocystis carinii* pneumonia among persons with hemophilia A. MMWR 1982;31:365-7.
4. CDC. Persistent, generalized lymphadenopathy among homosexual males. MMWR 1982;31:249-51.
5. CDC. Diffuse, undifferentiated non-Hodgkins lymphoma among homosexual males—United States. MMWR 1982;31:277-9.

¶CDC encourages reports of any cancer among persons with AIDS and of selected rare lymphomas (Burkitt's or diffuse, undifferentiated non-Hodgkins lymphoma) among persons with a risk factor for AIDS. This differs from the request for reports of AIDS cases regardless of the absence of risk factors.

TABLE 2. AIDS cases per million population,* by standard metropolitan statistical area (SMSA) of residence, reported from June 1, 1981 to September 15, 1982 — United States

SMSA of residence	Cases	Percentage of total	Cases per million population
New York, N.Y.	288	48.6	31.6
San Francisco, Calif.	78	13.2	24.0
Miami, Fla.	31	5.2	19.1
Newark, N.J.	15	2.5	7.6
Houston, Texas	15	2.5	5.2
Los Angeles, Calif.	37	6.2	4.9
Elsewhere (irrespective of SMSA)	129	21.8	0.6
Total	593	100.0	2.6

*From the 1980 Census

TABLE 3. Cases of AIDS, by sexual orientation and intravenous drug abuse, reported from June 1, 1981, to September 15, 1982 — United States

Sex	Sexual orientation	Cases	Percentage distribution by sexual orientation	Intravenous drug abuse*			Percentage using IV drugs †
				Yes	No	Unknown	
Male	Homosexual or bisexual	445	75.0	42	300	103	12.3
	Heterosexual	84	14.2	49	33	2	59.8
	Unknown	30	5.1	11	11	8	50.0
Female	Heterosexual	34	5.7	20	12	2	62.5
Total		593	100.0	122	356	115	25.5

*Regardless of when the last such activity occurred.

†Excluding cases with unknown history of IV drug abuse

SCREENING PROTOCOL FOR AIDS

Purpose:

To coordinate the initial evaluation of patients suspected of having Acquired Immune Deficiency Syndrome in any of its usual modes or presentation (KS, OI, lymph node syndrome), to facilitate this evaluation, avoid unnecessary invasive screening of well individuals, and ensure the rapid appropriate diagnosis and therapy of patients with this disease by physicians skilled in this process.

Method:

Patients who desire screening for this syndrome should be referred to their personal physician or to the appropriate City District Health Center, screening clinic or health plan.

Personnel at District Health Centers and their medical facilities listed will be provided with a set of guidelines for AIDS screening and offered training in the recognition of this disease.

A list of referral sources for patients suspected of having AIDS after initial screening is available to each health facility requesting it.

Feedback will be provided to the referring facility from the referral source on the outcome of diagnostic evaluation, screening guidelines for the patient suspected of having Acquired Immune Deficiency Syndrome (AIDS) and for associated Kaposi Sarcoma or infections.

Background:

AIDS itself is probably asymptomatic unless complicated by malignancy, opportunistic infections or diffuse lymphadenopathy.

Kaposi Sarcoma:

Frequently presents with characteristic palpable skin lesions; violaceous/red; asymptomatic (don't itch, hurt). May affect any area of body but common sites easily overlooked include:

- Feet
- Behind ear
- Oral cavity including palate, tonsils, uvula KS lesions don't blanch with pressure. Occasional patient presents with no visible tumors but with swollen lymph nodes only.

Lymph Node
Syndrome:

Patients may be asymptomatic or have fevers, weight loss, diarrhea, anorexia, have enlarged (over 1 cm. diameter) lymph nodes in multiple areas, especially note nodes in areas like:

- Pre-auricular,
- Occipital,
- Epitrochlear,

but they may appear anywhere. Usually nodes have been present for months. Patients may have a history of recurring infections.

Opportunistic
Infections:

Patients with AIDS are susceptible to a variety of infections. Some of the more frequently seen are the following:

Candida infection of the mouth or perirectal area. Often present for months and unresponsive to the usual therapy.

Viral infections, especially herpes type. Oral and genital herpes simplex infections are common and often recur frequently, and/or recovery is prolonged. Herpes zoster (shingles) may occur and be very aggressive.

Diarrhea infections are frequently seen and may be caused by common or rare parasites.

Pneumocystis carinii pneumonia (PCP) is caused by an organism present in the environment which causes disease only when the host immune system is damaged. Patients with PCP may appear healthy, mildly ill or extremely sick. Common symptoms of PCP are:

- Fever (often very high; frequently worse in afternoon and evening)
- Cough (usually without significant sputum)
- Shortness of breath (may be minimal)
- Chest pain

On evaluation, common findings include:

- rales, rhonchi in lungs
- pulmonary infiltrate on chest X-ray (may be normal or only mildly abnormal)
- blood counts usually normal

RECOMMENDED SCREENING STEPS FOR AIDS

Elicit history and perform physical examination concentrating on areas discussed above.

Obtain CBC and differential.

Obtain chest X-ray if evaluation is for possible infection.

If suspect AIDS after above, particularly if physical examination is abnormal, refer patient to appropriate source.

If suspicion of AIDS is low, have patient return for follow-up evaluation in two to three weeks.

Advise all patients on steps they can take to minimize risk, emphasizing lack of firm data:

- Reduce or eliminate anonymous sexual contacts
- Reduce or eliminate use of recreational drugs and alcohol
- Maintain program of regular physical activity
- Maintain or assume well balanced diet, adequate rest
- Obtain health insurance if not insured already
- Initiate association with personal physician or health clinic

Hyperimmune
↓

OUTLINE

Underlying Immunological Considerations

- I Types of Immunity
- II Definition of Immunity
 - natural - genetic
 - acquired → response to insult
- III The Immune System
 - A. phagocytosis WBC attack
 - B. humoral mediation
 - C. cell mediation
- IV Assessment of Immune Function
 - ① ability → control body temp
 - ② ut
 - ③ from lymph nodes
 - ④ assess reparatory systems
- V Factors That Contribute to Immunocompetence
 - A. age
 - B. dosage
 - C. nutritional considerations
 - D. emotional influence

- Function of T-Lymphocytes
- ① protect → against most viruses
 - ② " " slow acting bacteria
 - ③ fungus
 - ④ mediator of hyper-sensitivity skin reaction
 - ⑤ rejection of foreign grafts
 - ⑥ immunologic surveillance search & destroy of lymph.

GLOSSARY - IMMUNOLOGY

Agglutination	the clumping together of microorganisms with antibody
Antibody	a protein produced in the body in response to an antigen
Antigen	a foreign complex which, after invasion into the body, activates the immune response
Bursa <i>Bcell → hormone</i>	a lymphoid tissue (yet unidentified in humans) that is <i>produce plasma cells & 5 Imm globul</i> responsible for the activation of B-cells <i>intact → AIDS</i>
Cell-mediated immunity	immune response accomplished by T-cell activity
Complement	chemical mediation system that is activated by antigen-antibody binding and amplifies the humoral immune system
Histamine	a vasoactive chemical released by invaded tissue as part of an inflammatory response
Humoral Immunity	immune response accomplished by B-cells that secrete immunoglobulins
Immunocompetent	adequate and functional immunity
Immunodeficient	poorly-functional or non-functional immunity
Immunity	assistance to or protection against disease
Immunoglobulin	protein product of B-lymphocyte activity, e.g., IgG <i>normal value = AIDS patients</i>
Leukocyte	a small cell capable of destruction of specific organisms or communication with more specific immune killers
Lymphoid tissue	immune response organ system consisting of tonsils, adenoids, lymph glands, spleen, bone marrow and thymus
Lymphocyte	cell formed in fetal lymphoid tissue identified as either bursa-dependent (B-cell) or thymus-dependent (T-cell)
Macrophage	a large phagocytic cell, usually a monocyte
Microphage	a small phagocytic cell, usually a neutrophil or polymorphonuclear leukocyte
Mitogenic	capable of producing cell division; in immunology, the separation of T-cells from B-cells
Neutralization	process of chemical paralyzation or immobilization
Opportunist organism	a bacterium or virus that takes advantage of a depressed or deficient immune state
Phagocytosis	the ingestion and destruction of foreign proteins by leukocytes

Precipitation the process of a substance (antigen) being separated by action by a reagent (antibody)

Thymus lymphoid organ that, at puberty, undergoes involution, and is responsible for activation of functional T-cells

helpers

Killer

Suppressor

Commonly-Used Laboratory Tests

Albumin, serum 3.5 - 5.0 Gm/DL

Delayed Hypersensitivity

Skin Test

Ruler measurement of largest diameter of both erythema and induration response to an intra-dermally injected specific antigen

Immunoglobulins, serum

IgG 560-1700 mg/DL

IgM 60-360 mg/DL

Mitogenic Stimulation

Results based on formation of E-rosettes by T-cells

Mixed Lymphocyte Culture

results based on time or dose-response curves

Protein, total serum

6.5 - 8.0 mg DL

White Blood Cells, serum

4,000 - 10,000 cc mm

differential:

% of total white count

neutrophils 60 - 70%

(granulocyte immature cells)

HPX 0.0 - 0.14%

lymphocytes 30 - 40%

monocytes 0 - 5%

eosinophils 0 - 5%

basophils 0 - 3%

(large unstained cells)

L.U.C. 0.0 - 0.28%

BIBLIOGRAPHY

- Dwyer, J.M. et al: Management of the Immune-Compromised Patient, Cutter Biological, Berkeley, 1982.
- Fidler, Sister Mary Rebecca: "Hyperimmune Response: Anaphylactic Response," AACN Conference, May, 1982.
- Fudenberg, H., Stites, D., Caldwell, J., and Wells, J.: Basic and Clinical Immunology, Los Altos: Lange Medical Publications, 1980.
- Groenwald, S.: "Physiology of the Immune System," Heart and Lung, 9:4, July-August, 1980.
- Powanda, M., Cockerell, G., and Pekarek, R.: "Amino Acid and Zinc Movement in relation to Protein Synthesis Early in Inflammation," Am. J. Physiology, 225:399-401, 1973.
- Richter, M.: Clinical Immunology, Baltimore: Williams and Wilkins, 1982.
- Webster's New World Dictionary, Cleveland: World Publishing Co., 1978.

AIDS RELATED TERMS

- ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)** A state of mal-functioning of the immune system for some reason other than by birth defect or deliberately induced medically as in organ transplant recipients. The incidence of AIDS is reaching epidemic proportions recently and a contagious, possibly sexually transmitted agent responsible for depressing the immune system is suspected. Once immune depressed, the person becomes susceptible to a number of opportunistic diseases.
- CANDIDIASIS** A yeast-like infection caused by *Candida albicans* which affects mucus membranes, the skin and internal organs. Oral infections are called thrush and exhibit creamy white patches of exudate on inflamed and painful mucosa. Common sites are the nailbeds, axilla, umbilicus, around the anus, the esophagus, and the vaginal area. It may occur systemically and affect the heart and the meningies. This infection has become a standard problem seen in immune depressed people.
- CRYPTOCOCCOSIS** An infectious disease being seen in AIDS patients which is acquired via the respiratory tract with a primary focus in the lungs and which characteristically spreads to the meninges but which may also spread to the kidneys and skin. It is due to the fungus *Cryptococcus neoformans*. Meningitis with headache, blurred vision, confusion, depression, agitation or inappropriate speech is the most common form. It may be fatal.
- CRYPTOSPORIDIOSIS** An infection caused by a protozoan parasite found in the intestines of animals. Once transmitted to man, by direct contact with the infected animal, it lodges in the intestines and causes severe diarrhea. It may be transmitted from man to man. While this infection seems to be occurring more frequently in immuno-depressed people, one study reports incidence in healthy persons as well.
- CYTOMEGALOVIRUS (CMV)** A virus that is related to the herpes family. CMV infections may occur without any symptoms or result in mild flu-like symptoms of aching, fever, mild sore throat, weakness, enlarged lymph node. Severe CMV infections can result in hepatitis, mononucleosis or pneumonia even in non-immune suppressed people. CMV is very prevalent, found in as many as 54% of straight men and 94% of gay men studied, but is usually mild and self-limiting. CMV is "shed" in body fluids-urine, semen, saliva, feces, sweat. At present CMV is being researched as a possible cause of the immune suppression in AIDS patients.
- DIFFUSE, UNDIFFERENTIATED NON-HODGKINS LYMPHOMA (DUNHL)** A rare B-cell lymphoma that is difficult to distinguish from Burkitt's lymphoma. It's relationship to AIDS is uncertain at present and being investigated. The DUNHL patients exhibit generalized lymphadenopathy and enlarged spleens. This cancer is usually fatal.
- ATYPICAL MYCOBACTERIA** *M. tuberculosis* is the most common mycobacterium causing human disease; however, there are other mycobacterial species which may cause infections. The nontuberculous mycobacteria occur widely in nature but rarely cause disease except in immunosuppressed individuals. Man to man transmission has never been demonstrated. *M. avium-intracellare* has been associated with A.I.D.S. patients.
- IDEOPATHIC THROMBOCYTOPENIC PURPURA (ITP)** Is usually employed to refer to instances of thrombocytopenia associated with no apparent exogenous etiologic factors.

EPSTEIN-BARR VIRUS (EBV) The virus that causes one of the two kinds of mononucleosis (the other is caused by CMV). It lodges in the nose and throat and is transmitted by kissing. EBV lies dormant in the lymph glands and has been associated with Burkitt's lymphoma, a cancer of the lymph glands. This is the clearest link to date between viruses and cancer.

T-CELLS (HELPER/SUPPRESSOR) T-cells are lymphocytes (white blood cells) that are formed in the thymus and are part of the immune system that has been found to be abnormal in AIDS patients. The normal ratio of helper T-cells to suppressor T-cells is about 1.5:2. This becomes inverted in AIDS patients.

HERPES SIMPLEX VIRUS I (HSV I) The virus that results in cold sores or fever blisters on the mouth or around the eyes. Like all herpes viruses, the virus may lie dormant for months or years in nerve or lymph tissue and flare up again under stress, trauma, infection or immuno-suppression. There are no cures for any of the herpes viruses.

HERPES SIMPLEX II (HSV II) Causes painful sores on the anus or genitals. Sexually transmitted, it is the second most common venereal disease.

HERPES VARICELLA-ZOSTER VIRUS (HVZ) The varicella virus causes chicken pox in children and may reappear in adulthood as herpes zoster. Herpes zoster, also called shingles, are small very painful blisters on the skin that follow nerve pathways.

KAPOSI'S SARCOMA (KS) A tumor of the walls of blood vessels. Usually appears as pink to purple, painless spots on the skin but may also occur internally in addition to or independent of the skin lesions. Death occurs from major organ involvement. Originally seen in elderly men or in equatorial Africa as a slow growing, benign lesion, it is now occurring in young men, 80% of whom are gay, and is rapid and frequently fatal in its course.

LYMPHADENOPATHY Swollen, firm and possibly tender lymph nodes. The cause may range from a temporary infection such as the flu, to lymphoma which is cancer of the lymph nodes.

OPPORTUNISTIC DISEASES Those diseases that are caused by agents that are frequently present in our bodies or environment but which cause disease only when there is an alteration from normal healthy conditions, such as when the immune system becomes depressed.

PNEUMOCYSTIS CARINII PNEUMONIA A lung infection seen in immuno-suppressed people. It is caused by a protozoa present almost everywhere but which is normally destroyed by healthy immune systems. It is air borne. Once a person develops PCP they are susceptible to recurrence of the disease and the outcome is often fatal.

TOXOPLASMOSIS A systemic infection caused by a protozoan parasite. Primary infection is usually mild or asymptomatic but can rarely cause fever, lymphadenopathy, and lymphocytosis. Congenital infections may be severe. Disseminated disease, including meningoencephalitis, has been recognized in immunosuppressed persons. Only felines have been shown to excrete organisms in the infectious oocyst state but disease may also occur through ingestion of raw or undercooked meat from infected animals.

AIDS
↓
Kaposi S.

Sepsis

CASE STUDY

John, a 41 year old male, was first seen in the U.C.S.F. clinic on August 30, 1982. His complaints included staphylococcal impetigo in the groin and axilla, which was subsequently successfully treated with topical antibiotics; a seven pound weight loss, and frequent watery stools for the past month. Stool O&P revealed Giardia lamblia, which was treated with Quinacrine, Lomotil, Kaopectate, and Flagyl. Other lab tests demonstrated a T helper-suppressor ratio of 0.5 (normal 1.8 - 2.4), a WBC of 3500 (normal 4500 - 11000) with a poly count of 55% (normal 33-75%), a positive CMV semen culture, and a CMV antibody titer of 1:256 (normal 1:4). Physical exam revealed minimal peripheral lymphadenopathy. John gave a past history of diarrhea/constipation, usually associated with diet and/or drug use (cocaine, methadrine, speed). He reported no drug use for the past nine months. Past history also included multiple episodes of anal/penile gonorrhea in the 1970's, a case of syphilis in 1960, and hepatitis in 1976. Otherwise, his health was excellent. John, a retired stock broker, came to the clinic with Dick, his partner for 10 years. Their relationship appeared very close and supportive. Approximately one year prior to admission, both Dick and John had had sex with a man who was later diagnosed as a KS patient and has since died. Dick had had a splenectomy in July for idiopathic thrombocytopenic purpura (ITP).

Over the next two months, John was followed in the clinic and had a sigmoidoscopy, an upper G.I., and an upper endoscopy with a duodenal biopsy. None of these revealed the cause of the diarrhea, which

responded only briefly to medication. A diagnosis of impending immunodeficient syndrome was considered, along with that of malabsorption, which was based on a low serum of carotene to 12 (normal 50-300) and a fecal fat of 7.0 gm (normal 2.0 - 6.0). His chest x-ray was normal. In late September, John reported fevers to 101.5 (38.6) nearly every night. He also developed red spots on his palate which were diagnosed as candidiasis by oral medicine. Treatment for these was begun with Nystatin and frequent oral hygiene. On October 25, John reported continued diarrhea, increasing fevers, and SOB, dry cough, and sweats over the previous week. His temperature was 101.5 (38.6), he had a cough with inspiration, and total weight loss was 18 pounds. A chest x-ray revealed bilateral interstitial infiltrates compatible with Pneumocystis carinii pneumonia (PCP) and he was admitted to the Cancer Research Institute for further work-up and treatment of PCP or possible atypical mycobacterium.

In the hospital John's fever continued to spike to 40.6 and it remained consistently over 38. The fever was treated with tylenol and a cooling blanket. Septra (Bactrim) and leukovorin were used as empiric therapy. Blood cultures were drawn at this time. A bronchoscopy was done without difficulty and bronchial washings were positive for pneumocystis and CMV and negative for acid-fast bacillus. Following the bronchoscopy, John experienced progressive tachypnea to a rate of 32, tachycardia to a rate of 120, and difficulty breathing despite high flow oxygen, thus raising the possibility of a pneumothorax. ABG's on 100% oxygen were pH=7.41, $\text{PCO}_2=32$, $\text{PO}_2=51$, $\text{HCO}_3=20$, $\text{BE}=-3$, $\text{O}_2 \text{ Sat}=62$, and his chest x-ray remained unchanged. The PFT (pulmonary function test) revealed a vital capacity which was 83% of predicted, an

expiratory reserve volume of 104% of predicted, a total lung capacity of 53% of predicted, and a residual volume/total lung capacity of 74% of predicted. Especially significant was the markedly decreased diffusing capacity at 55% of normal which reflected loss of pulmonary capillary bed and was consistent with PCP. A Gallium scan was also consistent with infectious pulmonary involvement. John continued to become more tachypneic to a rate of 40+ and more hypoxic with a PO_2 of 31 on 100% oxygen. On his third hospital day he was transferred to the ICU for treatment of acute respiratory failure.

In the ICU an arterial line was placed and John was electively intubated and placed on a ventilator with PEEP of 5cm H_2O with some improvement in his condition by the following day. His inspired oxygen tension went from 80% to 40% and he was well ventilated with an 800cc tidal volume and PEEP of 8cm H_2O , although his chest x-ray was worse, showing total white-out, and his fever and diarrhea continued. An NG feeding tube was placed to provide enteral nutrition with Travasorb MCT. After his initial improvement, John experienced slow deterioration of his respiratory status which required PEEP of 12cm H_2O . His chest x-ray revealed increased consolidation suggestive of a superimposed infection although his sputum did not reveal a specific pathogen. Pentamidine was added to his antibiotics and three days later the septrin and leukovorin were discontinued. Although John's fever persisted, his chest x-ray showed gradual improvement and his PEEP was weaned to 5cm H_2O . He developed a peri-anal Candida infection which suggested possible disseminated Candidiasis. Seven days after admission the initial blood cultures were reported to be growing Cryptococcus neoformans. Treatment was initiated with amphotericin B and 5FC.

Eleven days after his admission to ICU, John had a stable respiratory status and he was transferred back to CRI.

7 Over the next two weeks John continued to experience intermittent temperature spikes and diarrhea, and he also was anorexic and had problems with hemorrhoids. A Hickman catheter was placed for TPN (total parenteral nutrition) and administration of antibiotics. His major problem at this time was ATN (acute tubular necrosis) evidenced by an increase in Creatinine from 2.5mgm to 4.9mgm (normal 0.6 - 1.4) and a BUN which went from 26 to 62 (normal 10 - 24). Because his acute renal failure was suspected to be related to the toxicity of the antibiotics, pentamidine was permanently discontinued and septr, 5FC, and amphotericin B were discontinued for varying lengths of time. When a repeat bronchoscopy demonstrated the continued presence of PCP and other tests continued to show CMV and cryptococcus, it was decided it was necessary to continue the antibiotics. During this period both John and Dick were very anxious and the stress was evident in their interactions.

By November 24, John was feeling better. Although he experienced dyspnea after ambulation, his maximum temperature was 37.5, his po intake was much improved, his ATN was resolved, and he was given a pass for Thanksgiving Day. Following his return, John continued to progress. His TPN was tapered and discharge teaching on home care of his Hickman line was begun. A VNA referral was initiated at discharge and plans were made for out-patient administration of Amphotericin B three times per week. John was discharged on December 1, after 44 days in the hospital. He had a clinic appointment for the following day.

John's first four out-patient amphotericin infusions were conducted without incident. He demonstrated care of his line at each visit. He

did continue to experience diarrhea and also complained of constant nausea. On December 13, during his fifth infusion he said he wasn't feeling well due to constant nausea and stated he had stopped all his meds the night before. After medical evaluation, he was scheduled for an upper G.I. and a repeat bronchoscopy. The bronchoscopy was complicated by a 30% pneumothorax which required admission and insertion of a chest tube for 24 hours. One day later he was discharged in good condition with a VNA referral. A few Pneumocystis carinii but no Cryptococcus were seen on the pathology specimen.

John has been seen several times since his discharge, including one visit when he received two units of irradiated PRBC's (packed red blood cells) for a HCT of 25.5 and another when he had an endoscopy. All medications have been discontinued except Septra, although his Hickman remains in place. He is afebrile. An endoscopy with duodenal biopsies was also done on February 24, in an attempt to determine the cause of his continuing diarrhea which is currently being treated with Parepectolin. John continues to be followed in the hem-onc clinic.

JOHN: A MULTIDISCIPLINARY CASE STUDY OF AIDS

- I INTRODUCTION - Carol Viele, R.N., M.S., Clinical Nurse Specialist, Oncology
- II ADMISSION TO THE HOSPITAL AND PROGRESSION OF DISEASE - Margaret Walter, R.N.,
Oncology
- III ISSUES CONCERNING POTENTIAL DISEASE TRANSMISSION - Linda Rosendorf
- IV ICU - CLINICAL COURSE AND RESULTING PROBLEMS - Judy Harr, R.N., ICU
PFT
- V RESPIRATORY COMPLICATIONS - Marty Hill, R.R.T.
chest tube } at bedside
thoracostomy tray }
- VI NUTRITIONAL SUPPORT - Cathie Belford Budd, R.D.

Pneumo
cystis
↓ #2

VII PSYCHOSOCIAL ISSUES - Shellie Hatfield, L.C.S.W.

VIII EMOTIONAL SUPPORT - Margaret Walter, R.N., Oncology

NURSING PROBLEM LIST AND CARE PLAN

UNIT NUMBER

DIAGNOSIS:

AGE:

PT. NAME

RN:

M.D.:

SERVICE

BIRTHDATE

Initial

Name

Initial

Name

LOCATION

DATE

DIRECTIONS:

1. To individualize the nursing care plan circle the problem number and nursing orders that apply to the patient.
2. Add and number additional problems as needed.

Date	No.	Patient Problem/Expected Outcomes	Deadlines & Charting Freq.	Nursing Orders
	1.	Anxiety, anger, depression due to:		1. Provide atmosphere of acceptance.
		- diagnosis and prognosis		2. Establish consistent care-takers and an environment of trust and confidence.
		- debilitation and disfigurement		3. Provide opportunities for pt to ventilate feelings, concerns, fears.
		- guilt and shame re association of lifestyle with disease		4. Allow for time each shift to be with pt as a listener (as opposed to task doer).
		- loss of privacy		5. Involve social worker, chaplain.
		- loss of control		6. Encourage family to utilize staff as resource. Assist to express their own anxiety, anger, etc.
		- loss of identity		7. Enlist community resources.
		- fear of unknown		8. Encourage honest, consistent messages by all members of the team involved with the pt.
		Expected Outcomes:		
		- Able to mobilize and express anger		
		- Able to preserve self-esteem		
		- Able to acknowledge feelings, concerns		
		- Pt and family able to recognize and utilize available support systems		
	2.	Increased susceptibility to infection due to:		1. Protective isolation/compromised host/private room with toilet. Careful hand-washing.
		- immune deficiency		2. Hickman care and teaching as per procedure. Change all solutions and tubings q 24 hrs, date.
		- neutropenia due to chemotherapy		3. Avoid venipunctures, IM injections, rectal temps, enemas, rectal tubes, foley catheters.
		- myelo suppressing therapies		

602-15 5/80

MEDICAL RECORD COPY

QUINACRINE

I. INDICATIONS AND USE

- A. Tapeworm
- B. Malaria
- C. Drug of choice for giardiasis (cure rate 80-95%)

II. DOSAGE

- A. Administered orally
- B. Giardiasis - 100 mgm (1 tablet) tid x 5-7 days. The stool is examined 2 weeks later and a repeat course given if indicated.

III. ADMINISTRATION

- A. Give after meals with a full glass of water, tea, or fruit juice

IV ADVERSE REACTIONS

- A. Frequent
 - 1. Mild and transient headache
 - 2. Dizziness
 - 3. G.I. disorders - diarrhea, anorexia, nausea, abdominal cramps and, rarely, vomiting
- B. Infrequent
 - 1. Transient toxic psychoses lasting 2-4 weeks
 - 2. Other infrequent side effects are associated with chronic administration for suppression of malaria

V USE WITH CAUTION IN PATIENTS WITH

- A. Severe renal disease
- B. Severe cardiac disease
- C. History of psychosis
- D. Hepatic disease or alcoholism

VI NOTES

- A. Temporarily imparts a yellow color to the urine and skin

FLAGYL

I. INDICATIONS AND USE

- A. Trichomoniasis
- B. Amebiasis - drug of choice for *E. histolytica*
- C. Giardiasis - recommended by CDC as an alternative to quinacrine. Although it seems to be slightly less effective, it may be better tolerated.
- D. Anaerobic bacterial infections

II. DOSAGE FOR GIARDIASIS

- A. 250 mgm po - tid x 5-7 days
- B. Investigationally adults have also been successfully treated with single daily doses of 2 grams for 3 days

III. ADVERSE REACTIONS WITH ORAL ADMINISTRATION

A. Frequent

- 1. Nausea - most common
- 2. Headache
- 3. Anorexia
- 4. Dry mouth
- 5. Short, unpleasant metallic taste
- 6. Occasional other G.I. effects include vomiting, diarrhea, epigastric distress, abdominal discomfort and constipation
- 7. Urethral burning or discomfort
- 8. Dyspareunia
- 9. Decreased libido
- 10. Oral or intestinal candidiasis

B. Rare

- 1. Antibiotic - associated pseudomembranous colitis
- 2. Peripheral neuropathy
- 3. Flattening of the T-wave
- 4. Hypersensitivity reactions resembling serum sickness

IV. CAUTIONS

- A. Reduce dosage and use with caution in patients with severe hepatic impairment
- B. Potentiates the effects of oral anticoagulants
- C. Alcohol should not be consumed during therapy
- D. Administration with disulfiram has been associated with acute psychoses and confusion in some patients

V. NOTE

- A. Urine may be dark or reddish-brown in color

TRIMETHOPRIM AND SULFAMETHOXAZOLE (BACTRIM) I.V. INFUSION

I. INDICATIONS AND USAGE

- A. Pneumocystis carinii Pneumonitis
- B. Shigellosis
- C. Urinary Tract Infections--if severe or complicated

II. DOSAGE

- A. Pneumocystis carinii Pneumonitis: 15 to 20 mg/kg/day (based on trimethoprim component) every 6 to 8 hours for up to 14 days.
- B. Severe Urinary Tract Infections and Shigellosis: 8 to 10 mg/kg/day (based on trimethoprim component) every 6, 8, or 12 hours for up to 14 days for UTI or 5 days for Shigellosis.

III. METHOD OF PREPARATION

- A. Each 5 ml ampul contains 80 mg of trimethoprim and 400 mg of sulfamethoxazole.
- B. Each 5 ml ampul should be added to 125 ml of D5W.
 - 1. After diluted, the solution should not be refrigerated and should be used within six hours.
 - 2. If the solution is cloudy or there is evidence of precipitation after mixing, it should be discarded.
- C. If fluid restriction is desirable, each 5 ml ampul may be added to 75 ml of D5W.
 - 1. The solution should be mixed just prior to use and should be used within two hours.
- D. When extreme fluid restriction is required, each 5 ml ampul can be added to 50 ml of D5W.
 - 1. The solution must be used within one hour.
 - 2. This mixture must be approved by the chief resident in I.V. additives.
- E. Bactrim I.V. should not be mixed with other drugs or solutions.

IV. ADMINISTRATION

- A. The solution should be given by intravenous drip over a period of 60 to 90 minutes.

- B. Rapid infusion or bolus injection should be avoided.

- C. Bactrim I.V. should not be given intramuscularly.

V. ADVERSE REACTIONS

A. Frequent

- | | |
|-------------|-----------------------|
| 1. Nausea | 3. Thrombocytopenia |
| 2. Vomiting | 4. Maculopapular rash |

B. Infrequent

- | | |
|---------------------------|-----------------------------|
| 1. Local reaction | 7. Stevens-Johnson Syndrome |
| 2. Pain | 8. Fever |
| 3. Slight irritation | 9. Confusion |
| 4. Thrombophlebitis | 10. Depression |
| 5. Hepatotoxicity | 11. Hallucinations |
| 6. Serious skin reactions | |

VI. OVERDOSAGE

- A. High doses and/or treatment for extended periods of time can cause bone marrow suppression manifested as aplastic anemia, leukopenia, thrombocytopenia, and/or megaloblastic anemia.
 - 1. The presence of clinical signs such as sore throat, fever, pallor, purpura, or jaundice may be early indications of serious blood disorders.
 - 2. If signs of bone marrow suppression occur, the patient should be given leucovorin (folinic acid) 3 to 6 mg intramuscularly for three days or as required to restore normal blood hemopoiesis.

BACTRIM I.V. SOLUTION SHOULD BE STORED AT ROOM TEMPERATURE AFTER MIXING.

A RESTRICTED ANTIMICROBIAL DRUG FORM MUST BE FILLED OUT WHEN REQUESTING BACTRIM I.V.

LEUKOVORIN

I. INDICATIONS AND USES

- A. Replaces folic acid lost because of deficiency or administration of folic acid antagonists

II. DOSAGE

- A. Oral or intramuscular (oral is less active)
- B. For folic acid deficiency caused by trimethoprim, 3 to 6 mg IM qd for 3 days as required to restore normal hematopoiesis. In chronic overdose of trimethoprim, leukovorin may be given in high doses and/or for an extended period of time.

III. ADMINISTRATION

- A. May be administered concurrently with trimethoprim without interfering with its antibacterial activity, since bacteria are unable to utilize preformed folates.

IV. ADVERSE REACTIONS

- A. Appears to be nontoxic in therapeutic doses

PENTAMIDINE ISETHIONATE

I. INDICATIONS AND USAGE

- A. Pneumocystis carinii pneumonia
- B. African sleeping sickness

II. ADMINISTRATION

- A. Pentamidine is available in 200 mg single dose ampules for parenteral administration.
- B. Usual dosage is 4 mg/kg/day given as a single daily dose for 10 to 14 days. Maximum total dose is 56 mg/kg.
- C. Use only sterile distilled water to reconstitute pentamidine.
- D. Intramuscular administration: (this is the usual route)
 - 1. Use no more than 3 ml of sterile water to reconstitute for adults.
 - 2. Use no more than 1 ml of sterile water to reconstitute for pediatric patients.
- E. Intravenous administration:
 - 1. Reconstitute in 5 to 10 ml of sterile water.
 - 2. Infuse slowly over 5 to 10 minutes while the patient is lying down and also has IV glucose running in the line.
 - 3. Take BP measurements frequently throughout the administration.
 - 4. This route can be very painful and cause local discomfort.

III. ADVERSE REACTIONS

A. Acute reactions after IV administration:

- | | |
|-----------------|----------------------------|
| 1. Hypotension* | 9. Vomiting* |
| 2. Tachycardia* | 10. Dyspnea |
| 3. Facial flush | 11. Syncope |
| 4. Dizziness | 12. Lethargy |
| 5. Salivation | 13. Fecal incontinence |
| 6. Sweating | 14. Urinary incontinence |
| 7. Headache | 15. Epileptiform twitching |
| 8. Nausea* | 16. Facial edema |

* also seen after IM administration

These reactions usually last 10 to 30 minutes, but will frequently recur to the same degree after each subsequent injection. In some patients, hypoglycemia may occur simultaneously.

B. Chronic reactions:

- 1. Nephrotoxicity--usually mild and reversible
- 2. Hepatotoxicity--see mild increases in the SGOT
- 3. Hypoglycemia--greatest between the 5th and 7th days of therapy, but is rare
- 4. Hypocalcemia--very rare
- 5. Anemia--see decreases in the Hct, WPC, and platelets
- 6. Rashes--uncommon

PENTAMIDINE IS ONLY AVAILABLE ON PROTOCOL FROM THE INFECTIOUS DISEASES SERVICE.

AMPHOTERICIN B

I. INDICATIONS AND USAGE

- A. Cutaneous fungal infections
- B. Mucocutaneous fungal infections
- C. Systemic fungal infections

II. ADMINISTRATION

- A. Amphotericin B (AmB) is available as vials containing 50 mg of powder to be reconstituted for parenteral use.
- B. Use 10 ml of nonpreserved water to reconstitute the powder.
- C. Reconstituted vials can remain in the refrigerator for up to 1 week.
- D. Intravenous administration:
 - 1. Dilute the desired dose in 250 to 500 ml of D5W and give as an infusion over 4 to 6 hours.
 - 2. Use the infusion ASAP after preparation because it may deteriorate after standing for prolonged periods.
 - 3. Never filter the infusion as it is running into the patient because it is a colloidal suspension.
 - 4. Usual dose is a 1 mg test dose on day 1, followed by gradual increases to a final dose of 0.5 to 1.0 mg/kg given once daily.
- E. Intrathecal administration: (rarely used for fungal meningitis)
 - 1. Dilute 0.25 to 0.5 mg AmB in 5 ml of D10W with 25 mg hydrocortisone and inject into LP site.
 - 2. Immediately lower the patient into a Trendelenburg position for 45 minutes.
- F. Administration for bladder irrigation:
 - 1. Dilute 25 to 50 mg AmB in 500-1000 ml sterile water for irrigation.
 - 2. Irrigate the bladder with this solution once daily.

III. ADVERSE REACTIONS AND THEIR MANAGEMENT

A. Acute reactions:

- 1. Fever--give aspirin or Tylenol prn
- 2. Chills
- 3. Nausea and vomiting--give Compazine before infusion
- 4. Headache--give aspirin or Tylenol prn

The above reactions usually decrease with sequential injections. They can be minimized by premedicating with aspirin and Benadryl and by adding 5 to 25 mg of hydrocortisone to the infusion solution.

- 5. Thrombophlebitis--can minimize by adding 2000-3000 units of heparin to the infusion solution, using veins as distal as possible, using pediatric scalp vein needles, and alternating veins

B. Chronic reactions:

- 1. Anemia
- 2. Hypokalemia and hypomagnesemia
- 3. Systemic acidosis--can give oral NaHCO_3 if too severe
- 4. Impaired renal function--withhold the drug if the BUN is greater than 50 or the Cr is greater than 3 and restart at a lower dose when these fall

5FC (5-FLUOROCYTOSINE)

I. INDICATIONS AND USE

- A. Only used for serious infections caused by susceptible strains of *Candida* or *Cryptococcus* organisms

II. DOSAGE

- A. Only administered orally except for investigational IV use
- B. 50 to 200 mg per Kg of body weight daily
- C. Dosage must be calculated for patients with impaired renal function. Calculations are based on actual serum concentrations of the drug.

III. ADMINISTRATION

- A. Daily dose is administered in equally divided doses at 6-hour intervals
- B. Incidence and severity of nausea or vomiting may be decreased or eliminated if the dose is given over a 15-minute period

IV. ADVERSE REACTIONS

- A. Toxic effects seem to affect rapidly proliferating tissues, particularly the bone marrow and lining of the G.I. tract
 - 1. Moderate hypoplasia of bone marrow
 - 2. Nausea, vomiting, anorexia, diarrhea, abdominal bloating
- B. Elevation of serum alkaline phosphatase, SGOT, SGPT, BUN and serum creatinine
- C. Rash
- D. Confusion, hallucinations, headaches, sedation, vertigo, and liver enlargement have been reported less frequently

V. CAUTIONS

- A. Frequent hematologic, renal, and hepatic function tests should be performed during treatment

VI. NOTES

- A. Some clinicians advocate concomitant use with amphotericin B
- B. Should only be used after susceptibility tests indicate the causative organism is sensitive. Susceptibility tests should be performed at weekly intervals during therapy because of the possible development of resistance to the drug.

PAREPECTOLIN

I. INDICATIONS AND USE

A. Used for its constipating effect in the treatment of diarrhea

II. DOSAGE

A. A sugar-free suspension containing powdered opium

B. 5 ml to 10 ml 1 to 4 times daily

III. ADVERSE REACTIONS

A. Nausea and other gastrointestinal disturbances occasionally occur

IV. OVERDOSAGE

A. Manifested by depression of the CNS and reversed by administration of a narcotic antagonist

V. CAUTIONS

A. Use with caution in patients with asthma, severe prostatic hypertrophy, hepatic disease, or with a history of narcotic dependence

B. Prolonged use may produce physical dependence

VI. NOTES

A. Usual oral antidiarrheal doses do not produce analgesia or euphoria

MANAGEMENT OF THE AIDS PATIENT WITH ORAL CANDIDIASIS

I. Stabilize the patient

- A. Antibiotics change flora — overgrowth of organism
- B. Good dietary patterns
- C. Adequate rest
- D. Deal with underlying medical problems

II. Iron (Ferrobrad 500) if anemic from Fe deficiency

III. Xerostomia (dry mouth)

- A. Yeast like a dry environment
- B. Stimulate production of saliva (Pilocarpine HCl)

IV. Anti-fungal medication

- A. Nystatin (Mycostatin) vaginal tablets 100,000 u tid-qid
depending on severity

1. Use as follows:

- rinse mouth with peroxide - saline solution *
- place tablet on tongue
- swallow as it dissolves (15 to 20 minutes) and/or
spit out as it dissolves if it tastes too terrible
- if necessary, suck with a few gtts of water (dry mouth)
or a sugarless candy (taste)

2. Has no side effects

3. Suspension doesn't work well.

- B. Clotrimazole - 100 mgm 1x1 day
- C. Ketoconazole (Nizoral) 200 mgm - 1 or 2 tablets during breakfast

- 1. Side effects

- liver toxicity
 - skin rash
 - GI upset

- 2. Use no more than 2 weeks

- 3. Is more expensive

V. Mycolog cream

- A. For cracking at the corner of the lips. This is not usually seen in AIDS patients.

* Note: Peroxide Saline Mouth Rinse:

Mix equal parts of hydrogen peroxide (3%) with warm water and a dash of salt.

- Mix hydrogen peroxide with equal amounts of water and a dash of salt. Adjust proportions to personal comfort.

(1:1, 1:2, etc.)

- Rinse and spit out before sucking tablets.

ID/IC BULLETIN

Infectious Diseases and Infection Control, University of California, S.F.

Vol. 2, #3
October, 1982

ACQUIRED IMMUNODEFICIENCY SYNDROME

The appearance of a profound immunodeficiency syndrome in previously healthy homosexual males, Haitians, and hemophiliacs has raised considerable interest in the medical community and American press.

The University of California San Francisco (U.C.S.F.) first began treating these patients in August 1981. The number of patients has been steadily increasing and questions concerning treatment modalities and infection control measures have been frequently posed. This bulletin concentrates on the infectious aspects of this syndrome and presents guidelines for infection control in U.C.S.F. Hospitals and Clinics.

EPIDEMIOLOGY

Between June 1, 1981 and September 3, 1982 the Centers for Disease Control received reports of 578 cases of Kaposi's Sarcoma (KS), *Pneumocystis carinii* pneumonia (PCP) and other serious opportunistic infections (OI) occurring in previously healthy persons. Of the 578, 435 (75%) were homosexual or bisexual men, 83 (14%) heterosexual males, 28 (5%) males of unknown sexual orientation and 32 (6%) women. Almost 90% of the cases were 25-49 years old. Approximately 60% were white not Hispanic, 20% black not Hispanic, and 13% Hispanic.

Cases have been reported from 27 states; however, approximately 50% of the reports have come from New York City. California, Florida, New Jersey and Texas have also reported a large number of cases. (CDC, MMWR, 31:294, 1982). Nine foreign countries have reported at least one case. Some of these individuals had been to New York City prior to becoming ill. There also appears to be a large number of seemingly similar cases occurring in Haiti and there have been 34 diagnosed cases in Haitian refugees in the United States.

Table 1 is a breakdown of disease and mortality of United States cases as of September 3, 1982. (CDC, Task Force on Acquired Immunodeficiency Syndrome, weekly report).

Table 1. Disease and Mortality, United States

	Cases	Percent of total	Deaths (percent)
KS without PCP	177	30.6	34 (19.2)
PCP without KS	291	50.4	137 (47.1)
Both KS and PCP	43	7.4	29 (67.4)
OI without KS or PCP	67	11.6	33 (49.3)
Total	578	100.0	233 (40.3)

The San Francisco Public Health Department first received reports of cases with onset in 1980. There have been 100 cases reported as of September 5, 1982. Ninety-nine were male homosexuals and 1 was a heterosexual male. Fifty-one of the 100 cases have had onset in 1982 and the number of reported cases is continuing to increase. Table 2 summarizes the cases in San Francisco. (personal communication, Selma Dritz MD, Disease Control, San Francisco Public Health Dept).

Table 2. Disease and Mortality, San Francisco

	Cases	Percent of total	Deaths (percent)
KS without PCP	45	45.0	7 (15.6)
PCP without KS	37	37.0	15 (40.5)
Both KS and PCP	8	8.0	5 (62.5)
OI without KS or PCP	10	10.0	5 (50.0)
Total	100	100.0	32 (32.0)

Initially reported cases were in bisexual or homosexual males; however, there has been a small but continuing increase of cases in heterosexual males and in

women. In one study, 63% of the heterosexual men and 57% of the women reported using intravenous drugs, compared with 14% of the homosexual men (CDC, MMWR, 31:294, 1982). In July the Centers for Disease Control released reports of 3 cases of PCP in patients with hemophilia A but no other underlying disease. All 3 patients had received multiple doses of factor VIII concentrate but none of the patients had received concentrate from the same lot (CDC, MMWR, 31:365, 1982).

IMMUNOLOGY

The common denominator explaining the multiplicity of presentations in these patients appears to be a severe disorder of immunoregulation, termed acquired immunodeficiency syndrome (A.I.D.S.) These findings have recently been described (AS Fauci, Ann Intern Med, 96:777, 1982). Patients present with a spectrum of immune dysfunction. This is most often characterized by anergy to skin testing, lymphopenia, and an often profound reversal in the ratio of two populations of T-lymphocytes, termed the helper-cell to suppressor-cell ratio or OK-T4 to OK-T8 cell ratio. Immunoglobulin levels are most often normal, although in some cases elevated IgA and/or IgG levels have been noted. In addition, at least in a few patients, the B-lymphocytes do not appear to be responding normally; this may be a secondary manifestation of abnormalities in the T-lymphocyte population.

This disorder of immune function impairs the body's "surveillance" to both infectious and non-infectious illnesses. The appearance of Kaposi's sarcoma, Burkett's lymphoma, Hodgkin's disease and some mucocutaneous malignancies represents a defect in these patient's ability to recognize or to eradicate malignantly-transformed cells. The recently reported observation of several cases of autoimmune thrombocytopenic purpura probably represents an additional manifestation of this disorder of immunoregulation.

The underlying cause of this disorder is unclear and it is difficult to sort out which risk factors (e.g. environmental, use of street drugs such as nitrites, genetic predisposition, etc.) may be contributory rather than causative. The most current theories include an infectious agent, possibly a virus which is transmitted like hepatitis B virus. It is suggested that this agent might infect T-lymphocytes and be responsible for immunosuppression. This may be a new agent or a mutated form of an old virus. Currently there is some speculation that cytomegalovirus may be involved. Others postulate a "chronic antigenic stimulation" theory which hypothesizes that repeated infections with gonorrhea, syphilis, hepatitis, amoeba and cytomegalovirus (CMV) "exhaust" the immune system.

CYTOMEGALOVIRUS INFECTIONS

Cytomegalovirus is a herpes DNA virus which is found ubiquitously. It is well recognized as a cause of a mononucleosis-like syndrome in adults, neonatal and congenital infection, and illness in immunosuppressed patients. Patients receiving organ transplantation, in particular, are at risk. This infection may manifest as a pneumonitis, hepatitis, gastroenteritis, or retinitis. Recently it has been noted that 93% of sexually-active gay men have cytomegalovirus IgG antibody and approximately 50% have IgM antibody (LW Drew et al., J Infect Dis, 143:188, 1981). In addition, a number of these patients have been found to excrete CMV in their urine and semen. The diagnosis of CMV usually is made on clinical, serological, culture, and often pathological criteria.

A.I.D.S. patients have serological evidence of past infection. The virus has been found in cultures from biopsy specimens and microscopic evidence has been seen in biopsies of lung, bowel and tumor (LW Drew et al., Lancet, II:125, 1982). Speculation regarding the role of this virus as a possible etiological factor in this syndrome remains controversial. The association of this virus and Kaposi's sarcoma was reported in African patients prior to this current epidemic (Geraldo G and Beth E, The Role of Viruses in Human Cancers, Elsevier — North Holland, 1:57, 1980). In addition, the laboratory evidence for a transient immunosuppressive state following CMV mononucleosis in otherwise healthy patients has been reported independently. (CR Rinaldo Jr., J Infect Dis, 141:488, 1980).

No efficacious therapy has been defined to date. However, interest in a number of antiviral drugs and interferon has led to ongoing clinical trials with a variety of agents.

PNEUMOCYSTIS CARINII PNEUMONIA

Pneumocystis carinii is a protozoan also found ubiquitously worldwide. By the age of 4, approximately 80% of immunocompetent children have serological evidence for past infection. However, this organism has been identified as a cause of often fatal pneumonitis in several subpopulations. These include protein-malnourished children in European orphanages and immunosuppressed patients. The appearance of this infection and Kaposi's sarcoma in homosexual adult males alerted the medical communities in New York City, Los Angeles, and San Francisco to this syndrome. The organism is most often limited to the lungs. It presents as a diffuse pneumonitis with few findings on physical examination, but often profound hypoxia and dyspnea. Occasionally the organism has been found to disseminate to multiple sites, including the retina. Diagnosis is made by silver methenamine staining of tissue obtained from lung biopsy. To date, attempts at culture and serological diagnosis have been disappointing.

Treatment is provided by either high dose trimethoprim-sulfamethoxazole (TMP-SMX), given either orally or intravenously, or with pentamidine, administered intravenously or intramuscularly. No comparative trials in this population have been reported, and in some cases a combination of these drugs has been given. Although the mortality from this infection in patients with hematological malignancies has decreased with the advent of appropriate chemotherapy from over 50% to 5-10%, the mortality from pneumocystis in patients with A.I.D.S. has been in the range of 50% despite drug therapy. In addition, a number of cases of recurrence have been described. Therapy with oral trimethoprim-sulfamethoxazole should include documentation of adequate absorption by obtaining peak serum concentrations of either trimethoprim or sulfamethoxazole. Problems with both drugs are common. Skin rash and fluid overload with intravenous TMP-SMX are not absolute contraindications to therapy, but must be monitored. The usefulness of prophylactic TMP-SMX in this syndrome has not yet been investigated.

OTHER INFECTIONS

A number of additional infections of varying severity have been reported. Thrush (candida pharyngitis and esophagitis) is nearly universally seen. This infection is unusual in patients not taking antibiotics or known to have an underlying chronic illness. Although occasionally difficult to manage, a number of treatment options are available. These include oral nystatin, mycostatin oral tablets, ketoconazole, and intravenous amphotericin B.

Perianal ulcerations secondary to herpes simplex virus have been described. These can be quite extensive, causing the patient a great deal of discomfort. On occasion this has required the antiviral drug acyclovir for control.

A few cases of disseminated *Mycobacterium tuberculosis* and atypical mycobacteria have been reported. These have presented as diffuse tissue involvement with poor host cellular response. Treatment outcome with as many as five anti-tuberculosis medications has generally been poor.

Disseminated cryptococcus and cryptococcal meningitis have also been seen. These infections may present as pulmonary infiltrates, skin rash, or diffuse headache and photophobia, suggesting meningitis. Treatment with amphotericin B and 5-flucytosine has cured the infection in many cases, but some of these patients have gone on to relapse.

Other infections noted include recurrent bacterial sepsis, follicular impetigo, herpes zoster, *Nocardia* pneumonitis, and cryptosporidiosis colitis. Severe and fatal toxoplasmosis has also been seen. In summary, each new sign or symptom in these patients must be taken seriously and investigated fully for the broadest spectrum of possible infectious agents.

INFECTION CONTROL ASPECTS

The following guidelines were derived through discussion with members of the U.C.S.F. Kaposi's clinic and personnel caring for the patients and have been approved by the Infection Control Committee. They were established in consideration of a potentially transmissible agent being responsible for this syndrome and may be changed as further information becomes available.

All Patients: Private room not necessary (see exceptions below); however, A.I.D.S. patients are immunocompromised and should not be placed in a room with infected patients. Patients should be placed on "Blood" Precautions; i.e. blue sign; gloves required for contact with blood, secretions, excretions; gown and mask not necessary. A needle box should be placed at the bedside for immediate disposal of used sharps. Pregnant women should avoid direct patient contact because many of these patients are excreting cytomegalovirus.

Pneumocystis Patients: Private room not necessary but patients cannot be in the same room with high-risk patients or other A.I.D.S. patients because of the theoretical potential for *P. carinii* airborne spread to immunosuppressed patients. High-risk patients are defined as persons receiving radiation therapy, or other immunosuppressive treatments, cortisone derivatives in a dose greater than 100mg hydrocortisone equivalent per day or diagnosed as having leukemia, lymphoma, aplastic anemia, etc.

Kaposi's Sarcoma Patients: A private room not necessary but it is desirable to have private room and bathroom if the patient has diarrhea.

Compromised Host: Patients with WBC <1000 or PMN <500 should be placed on Compromised Host Precautions.

Materiel Services: Instruments and other items grossly contaminated with blood or excreta should be rinsed under running water in the utility room and sent to Materiel Services in a plastic bag labelled "contaminated."

Environmental Services: Rooms need not routinely be high-cleaned; questions concerning exceptions should be directed to Infection Control.

Dietary: Isolation trays are not necessary.

Linen: Double bag linen only if grossly contaminated with blood or excreta.

Laboratory: Blood specimens should be handled with caution as with known hepatitis B carriers; however, it is important to remember that blood from any patient may be infectious and appropriate infection control measures should always be followed.

Addendum: Frequently patients present with other infectious processes (e.g. hepatitis, herpes, enteric pathogens) and should be placed on appropriate precautions. *NOTE: Individuals who appear to have this syndrome can be seen in the Infectious Disease - Tropical Disease Clinic on the U.C.S.F. campus (x5787).*

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Current Trends

Acquired Immune Deficiency Syndrome (AIDS): Precautions for Clinical and Laboratory Staffs

The etiology of the underlying immune deficiencies seen in AIDS cases is unknown. One hypothesis consistent with current observations is that a transmissible agent may be involved. If so, transmission of the agent would appear most commonly to require intimate, direct contact involving mucosal surfaces, such as sexual contact among homosexual males, or through parenteral spread, such as occurs among intravenous drug abusers and possibly hemophilia patients using Factor VIII products. Airborne spread and interpersonal spread through casual contact do not seem likely. These patterns resemble the distribution of disease and modes of spread of hepatitis B virus, and hepatitis B virus infections occur very frequently among AIDS cases.

There is presently no evidence of AIDS transmission to hospital personnel from contact with affected patients or clinical specimens. Because of concern about a possible transmissible agent, however, interim suggestions are appropriate to guide patient-care and laboratory personnel, including those whose work involves experimental animals. At present, it appears prudent for hospital personnel to use the same precautions when caring for patients with AIDS as those used for patients with hepatitis B virus infection, in which blood and body fluids likely to have been contaminated with blood are considered infective. Specifically, patient-care and laboratory personnel should take precautions to avoid direct contact of skin and mucous membranes with blood, blood products, excretions, secretions, and tissues of persons judged likely to have AIDS. The following precautions do not specifically address outpatient care, dental care, surgery, necropsy, or hemodialysis of AIDS patients. In general, procedures appropriate for patients known to be infected with hepatitis B virus are advised, and blood and organs of AIDS patients should not be donated.

The precautions that follow are advised for persons and specimens from persons with: opportunistic infections that are not associated with underlying immunosuppressive disease or therapy; Kaposi's sarcoma (patients under 60 years of age); chronic generalized lymphadenopathy, unexplained weight loss and/or prolonged unexplained fever in persons who belong to groups with apparently increased risks of AIDS (homosexual males, intravenous drug abusers, Haitian entrants, hemophiliacs); and possible AIDS (hospitalized for evaluation). Hospitals and laboratories should adapt the following suggested precautions to their individual circumstances; these recommendations are not meant to restrict hospitals from implementing additional precautions.

A. The following precautions are advised in providing care to AIDS patients:

1. Extraordinary care must be taken to avoid accidental wounds from sharp instruments contaminated with potentially infectious material and to avoid contact of open skin lesions with material from AIDS patients.

~ hep B

CMV precaution

urine

saliva

① glove → direct contact
transmission

contaminated
contact → pregnant
↓ congenital
infect

Acquired Immune Deficiency Syndrome — Continued

2. Gloves should be worn when handling blood specimens, blood-soiled items, body fluids, excretions, and secretions, as well as surfaces, materials, and objects exposed to them.
3. Gowns should be worn when clothing may be soiled with body fluids, blood, secretions, or excretions.
4. Hands should be washed after removing gowns and gloves and before leaving the rooms of known or suspected AIDS patients. Hands should also be washed thoroughly and immediately if they become contaminated with blood.
5. Blood and other specimens should be labeled prominently with a special warning, such as "Blood Precautions" or "AIDS Precautions." If the outside of the specimen container is visibly contaminated with blood, it should be cleaned with a disinfectant (such as a 1:10 dilution of 5.25% sodium hypochlorite [household bleach] with water). All blood specimens should be placed in a second container, such as an impervious bag, for transport. The container or bag should be examined carefully for leaks or cracks.
6. Blood spills should be cleaned up promptly with a disinfectant solution, such as sodium hypochlorite (see above).
7. Articles soiled with blood should be placed in an impervious bag prominently labeled "AIDS Precautions" or "Blood Precautions" before being sent for reprocessing or disposal. Alternatively, such contaminated items may be placed in plastic bags of a particular color designated solely for disposal of infectious wastes by the hospital. Disposable items should be incinerated or disposed of in accord with the hospital's policies for disposal of infectious wastes. Reusable items should be reprocessed in accord with hospital policies for hepatitis B virus-contaminated items. Lensed instruments should be sterilized after use on AIDS patients.
8. Needles should not be bent after use, but should be promptly placed in a puncture-resistant container used solely for such disposal. Needles should not be reinserted into their original sheaths before being discarded into the container, since this is a common cause of needle injury.
9. Disposable syringes and needles are preferred. Only needle-locking syringes or one-piece needle-syringe units should be used to aspirate fluids from patients, so that collected fluid can be safely discharged through the needle, if desired. If reusable syringes are employed, they should be decontaminated before reprocessing.
10. A private room is indicated for patients who are too ill to use good hygiene, such as those with profuse diarrhea, fecal incontinence, or altered behavior secondary to central nervous system infections.

Precautions appropriate for particular infections that concurrently occur in AIDS patients should be added to the above, if needed.

B. The following precautions are advised for persons performing laboratory tests or studies on clinical specimens or other potentially infectious materials (such as inoculated tissue cultures, embryonated eggs, animal tissues, etc.) from known or suspected AIDS cases:

1. Mechanical pipetting devices should be used for the manipulation of all liquids in the laboratory. Mouth pipetting should not be allowed.
2. Needles and syringes should be handled as stipulated in Section A (above).
3. Laboratory coats, gowns, or uniforms should be worn while working with potentially infectious materials and should be discarded appropriately before leaving the laboratory.
4. Gloves should be worn to avoid skin contact with blood, specimens containing blood, blood-soiled items, body fluids, excretions, and secretions, as well as surfaces, materials, and objects exposed to them.

Acquired Immune Deficiency Syndrome — Continued

5. All procedures and manipulations of potentially infectious material should be performed carefully to minimize the creation of droplets and aerosols.
 6. Biological safety cabinets (Class I or II) and other primary containment devices (e.g., centrifuge safety cups) are advised whenever procedures are conducted that have a high potential for creating aerosols or infectious droplets. These include centrifuging, blending, sonicating, vigorous mixing, and harvesting infected tissues from animals or embryonated eggs. Fluorescent activated cell sorters generate droplets that could potentially result in infectious aerosols. Translucent plastic shielding between the droplet-collecting area and the equipment operator should be used to reduce the presently uncertain magnitude of this risk. Primary containment devices are also used in handling materials that might contain concentrated infectious agents or organisms in greater quantities than expected in clinical specimens.
 7. Laboratory work surfaces should be decontaminated with a disinfectant, such as sodium hypochlorite solution (see A5 above), following any spill of potentially infectious material and at the completion of work activities.
 8. All potentially contaminated materials used in laboratory tests should be decontaminated, preferably by autoclaving, before disposal or reprocessing.
 9. All personnel should wash their hands following completion of laboratory activities, removal of protective clothing, and before leaving the laboratory.
- C. The following additional precautions are advised for studies involving experimental animals inoculated with tissues or other potentially infectious materials from individuals with known or suspected AIDS.
1. Laboratory coats, gowns, or uniforms should be worn by personnel entering rooms housing inoculated animals. Certain nonhuman primates, such as chimpanzees, are prone to throw excreta and to spit at attendants; personnel attending inoculated animals should wear molded surgical masks and goggles or other equipment sufficient to prevent potentially infective droplets from reaching the mucosal surfaces of their mouths, nares, and eyes. In addition, when handled, other animals may disturb excreta in their bedding. Therefore, the above precautions should be taken when handling them.
 2. Personnel should wear gloves for all activities involving direct contact with experimental animals and their bedding and cages. Such manipulations should be performed carefully to minimize the creation of aerosols and droplets.
 3. Necropsy of experimental animals should be conducted by personnel wearing gowns and gloves. If procedures generating aerosols are performed, masks and goggles should be worn.
 4. Extraordinary care must be taken to avoid accidental sticks or cuts with sharp instruments contaminated with body fluids or tissues of experimental animals inoculated with material from AIDS patients.
 5. Animal cages should be decontaminated, preferably by autoclaving, before they are cleaned and washed.
 6. Only needle-locking syringes or one-piece needle-syringe units should be used to inject potentially infectious fluids into experimental animals.
- The above precautions are intended to apply to both clinical and research laboratories. Biological safety cabinets and other safety equipment may not be generally available in clinical laboratories. Assistance should be sought from a microbiology laboratory, as needed, to assure containment facilities are adequate to permit laboratory tests to be conducted safely.
- Reported by Hospital Infections Program, Div of Viral Diseases, Div of Host Factors, Div of Hepatitis and*

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Kaposi's Sarcoma Clinic, UCSF
 AIDS Clinic, San Francisco General Hospital
 INFECTION PRECAUTIONS FOR CARETAKERS OF AIDS PATIENTS

So far, no one has identified an organism which is causing AIDS. Most medical experts, however, believe that AIDS is caused by an infectious agent such as a virus. It is assumed, because of the groups of people who have gotten AIDS (gay men, IV drug abusers, hemophiliacs, babies whose mothers use IV drugs, and others), that this infectious agent is spread by blood and by body secretions shared in close, intimate (sexual) contact. These body secretions and excretions may include saliva, urine, feces, semen, mucus, and especially blood.

If you are careful with the above secretions and excretions while caring for an AIDS patient, you should be protected from the possibility of coming in contact with infectious agents, including the assumed organism thought to cause AIDS.

Here are specific precautions to take, which nurses are aware of in caring for any infected patient:

1. Wear disposable gloves when handling any secretions or excretions, especially when handling blood. Avoid direct contact with blood.
2. When your uniforms or clothing is likely to be in contact with secretions/excretions (such as when bathing or cleaning up a patient), wear a gown, lab coat, or smock.
3. Use plastic bags to dispose of soiled tissues, dressings, band aids, soiled gloves. Close and secure the bag tightly when discarding the bag.
4. Wash soiled linens and towels in a washing machine using hot water and detergent, and dry on high in the dryer. Wash dishes and silverware with hot soapy water.
5. Keep bedpans and urinals in a designated place; handle with gloves.
6. Diarrhea and vomitus: Using gloves, clean up patient and linens immediately, rinsing soiled surfaces with soap and water. Put linens which are soiled in a plastic bag until laundered.
7. Wash your hands well with soap and water after removing gloves, and before and after contact with AIDS patients. Use lotion on your hands to keep skin from becoming dry and cracked from frequent washing. If you have open sores on your hands, be especially careful to wear gloves, and wash hands.
8. Keep your hands away from your mouth and face while working. Wash your hands before eating.

9. Pregnant women should avoid direct physical care of AIDS patients because the AIDS patients are almost always shedding CMV virus. CMV is a common virus that does no harm to most people, but can cause birth defects in a baby whose mother becomes infected while pregnant.

There is no evidence that AIDS is transmissible through the air. However, an AIDS patient with an active and persistent cough may harbor other organisms which could spread with a cough. Any patient should be asked to cough or sneeze into a tissue or handkerchief, not in the air. AIDS patients who have active coughs are asked to wear masks in medical settings with other immunocompromised patients. (It is immunocompromised patients who are at risk of being infected with organisms such as pneumocystis).

If you have real concern about your own immune status, it is advisable to contact your own medical provider before caring for an AIDS patient.

Nutritional Care of Patients with *Pneumocystis Carinii* Pneumonia

*The current epidemic of *Pneumocystis carinii* pneumonia (PCP) in previously healthy persons (predominantly homosexual men) presents nutritional challenges for several reasons. First, the signs and symptoms of PCP include weight loss, dyspnea, and oral thrush, which all impact negatively on nutritional status. The pharmacological treatment of PCP can itself have adverse effects which compound the difficulty in maintaining an adequate nutrient intake. Also, since an underlying immunologic dysfunction is the precipitating factor in the development of PCP, it is proposed that careful assessment of nutritional status followed by aggressive nutrition support, where indicated, be incorporated into the medical management of the patient with PCP.*

Until recently, *Pneumocystis carinii* pneumonia (PCP) was a disease seen in a small percentage in a distinct patient population. Like other opportunistic infections, PCP occurred in patients with immune dysfunction secondary to either congenital immune deficiency or immunosuppressive therapy¹ and in some malnourished premature infants.² The rate of occurrence of PCP was approximately 0.3 cases/10⁶ persons per year.¹ In 1981, however, Gottlieb et al³ first reported a cluster of cases in previously healthy homosexual men, and since then the Center for Disease Control (CDC) has received reports of over 350 cases of PCP and other opportunistic diseases, including Kaposi's sarcoma. The syndrome is collectively termed Acquired Immune Dysfunction (AID).

At the time of this writing, the basic epidemiological aspects of AID are as follows:^{4,5} seventy-nine percent of patients are homosexual or bisexual; the median age is 35 years; eighty-six percent are from either California, Florida, New Jersey, New York, or Texas; and 60% of the heterosexual patients have had a history of IV drug abuse. While the mortality rate so far is 40%, the projected rate is as high as 70%.⁵ As the incidence of this syndrome has risen, so has the realization that the population at risk is large, and efforts to determine effective methods of treating as well as preventing the syndrome are led by a task force formed by the CDC.

The purpose of this paper is to ex-

plore the nutritional implications of one aspect of AID—PCP—and to encourage practitioners to consider nutritional support as an essential component of treatment.

NUTRITIONAL STUDIES OF PATIENTS WITH PCP.

A recent study published by the CDC Task Force⁶ outlined the most common signs and symptoms seen in patients with PCP (Table I). Most manifest early as a prodromal illness lasting weeks or months before diagnosis.^{3,7} Clearly five out of the six symptoms have significant nutritional implications.

Fever. Caloric and protein requirements increase by 13% and 10% respectively per one degree centigrade elevation in temperature.⁸ Since the incidence of fever is close to 100% and its course is often prolonged, it presents a significant metabolic stress in patients

whose ability to maintain an adequate nutritional status is compromised by several other factors.

Dyspnea. As any practitioner who has worked with patients with chronic obstructive lung disease is aware, dyspnea almost always results in a decreased p.o. intake. In an attempt to compensate for this, the goal should be to concentrate the nutritional content of foods and fluids into a manageable volume. Creative supplementation with total and modular enteral products is essential for optimal patient acceptance and tolerance. However, it is not always possible to meet energy and protein requirements with p.o. alone.

Weight Loss. When reported quantitatively, weight loss of up to 12 kg has been noted at the time of diagnosis.³ From personal observation many patients have experienced a weight loss of 10% or more, putting them in a category of patients generally accepted as at risk nutritionally and signaling the need for nutritional intervention. The particular significance of malnutrition in PCP will be discussed later.

Oral Thrush. The most common mucosal lesions in these immunosuppressed patients include candidiasis³ and herpes simplex.⁹ Depending on the type, location, and extent of these lesions, the patient frequently experiences significant pain and dysphagia. Here again, maximizing the nutritional composition of foods and fluids will be a tremendous asset, along with avoiding any irritating substances such as citrus. In severe cases of perianal herpes total bowel rest may be necessary, and the patient may require parenteral support.

Diarrhea. While only about one-third of patients were reported to have diarrhea, its influence on the absorption of macro- and micronutrients deserves careful attention. More specific characteristics of this diarrhea may come with further investigation; for now each pa-

Table I: Signs or symptoms reported in patients with *Pneumocystis carinii* pneumonia.³

Sign or symptom	% with sign or symptom n = 61
Fever	93.4
Dyspnea	88.5
Weight loss	70.5
Oral thrush	41.0
Diarrhea	34.4
Lymphadenopathy	23.0

tient's diarrhea should be evaluated and treated individually.

RATIONALE FOR NUTRITION SUPPORT.

The underlying problem in the current outbreak of PCP is the acquired immune dysfunction. Successful treatment must include restoration of immunocompetence, which so far has not been reported. While detailed characteristics of the immune dysfunction as well as risk factors for its development are reported elsewhere,^{5,10,11} a basic understanding of the dysfunction is needed to appreciate the role of nutrition.

Briefly, immunity consists of two major "arms"—humoral immunity and cell-mediated immunity (CMI) (Table II). The defect in AID appears to consist of depressed CMI, while humoral immunity remains intact. Expression of this CMI dysfunction includes a depressed total lymphocyte count (TLC), T-cell count, and T-lymphocyte helper/suppressor ratio (T-H/S); and anergy to skin antigen testing.^{3,5,7,12} While the relationship between nutrition and immunity is certainly complex, one of the primary benefits of nutrition support in the malnourished patient is restoration of CMI. TLC and skin antigen testing are commonly used in the diagnosis of protein-calorie malnutrition (PCM), and improvement in nutritional status results in immunocompetence. Micronutrients such as iron, vitamin C, and zinc also play an essential role in immunity. (A recent review of nutrition and immunity was published by Cunningham-Rundles.¹³)

Another factor which adversely impacts nutritional status is the medical treatment of PCP, which consists predominantly of drug therapy. Trimethoprim-sulfamethoxazole (TMP-SMZ, Septra) can cause anorexia, nausea and vomiting. The more serious side effects of pentamidine include hypoglycemia, hyperkalemia (which may require a potassium-restricted diet), and renal failure (the direct and indirect nutritional consequences of which are well known and appreciated).

CONCLUSION.

This paper has attempted to address several issues regarding the relationship between PCP and nutrition:

- The majority of patients with PCP either present with poor nutritional status or have current or potential signs and symptoms that can result in malnutrition.

- This malnutrition results in a fur-

Table II: Immunity—humoral vs. cell-mediated.

	Description	Effect from malnutrition
Humoral	Primarily immunoglobulins (IgG, IgM, IgA, IgE, IgD). Lymphocytes produce β cells which then produce Ig	Generally no effect
Cell-mediated	T cells (produced in thymus) characteristic of CMI	↓ T-cell number and responses

ther insult to CMI, which is already severely compromised by certain causative factors which are still being defined.

- Medical treatment of PCP may produce complications which compromise the patient's freedom to select and ability to take and tolerate p.o. foods and fluids.

Nutritional care of the patient with PCP therefore includes:

- Early identification of the patient as high risk for malnutrition.

- Patient education regarding the rationale for nutritional care and appropriate interventions. This is essential, since patients aware of nutrition-related problems may seek unorthodox advice and methods. For example, one patient at this institution placed himself on a total juice fast prior to his hospital admission.

- Early and aggressive nutrition support, ideally to begin at the time of diagnosis (often as an outpatient). This includes p.o. support as well as enteral or parenteral feeding as necessary.

- Close monitoring of nutritional status. Nutrient intakes, weight, serum albumin, nitrogen balance studies, and other parameters should be used serially to assess both nutritional status and the adequacy of the nutritional support provided.

We know that the cure of PCP will come only with restoration of immunocompetence. As more effective means of accomplishing this are hopefully developed, we must keep in mind that PCM can be a contributing factor to this depressed cellular immunity and consider nutrition support a basic but

crucial treatment modality.

REFERENCES

1. Walzer PD, Perl DP, et al. *Pneumocystis carinii* pneumonia in the United States. *Ann Intern Med* 80:83, 1974.
2. Gajdusek DC. *Pneumocystis carinii*—etiologic agent of intestinal plasma cell pneumonia of prematurity and young infants. *Pediatrics* 19: 543, 1957.
3. Gottlieb MS, Schroff R, et al. *Pneumocystis carinii* pneumonia and mucosal candidiasis in previously healthy homosexual men. *N Engl J Med* 305:1426, 1982.
4. Update on Kaposi's sarcoma and opportunistic infections in previously healthy persons—United States. *Morbidity & Mortality Weekly Report* 31(22):299, 1982.
5. Levine AS. The epidemic of acquired immune dysfunction in homosexual men and its sequelae. *Cancer Treatment Reports* 66:1391, 1982.
6. Special Report: Epidemiologic aspects of the current outbreak of Kaposi's sarcoma and opportunistic infections. *N Engl J Med* 306:248, 1982.
7. Mauser H, Michelis MA, et al. An outbreak of community-acquired *Pneumocystis carinii* pneumonia. *N Engl J Med* 305:1431, 1980.
8. Beisel WR. Infectious diseases. In *Nutritional Support of Medical Practice*, eds. HA Schneider, CE Anderson, DB Coursin, pp. 350–366. Hagerstown, MD: Harper and Row, 1977.
9. Siegal FP, Lopez C, et al. Severe acquired immunodeficiency in male homosexuals, manifested by chronic perianal ulcerative herpes simplex lesions. *N Engl J Med* 305:1439, 1981.
10. A cluster of Kaposi's sarcoma and *Pneumocystis carinii* pneumonia among homosexual male residents of Los Angeles and Orange counties, California. *Morbidity and Mortality Weekly Report* 31(23):1982.
11. Goedert JJ, Wallen WC, et al. Amyl nitrite may alter T lymphocytes in homosexual men. *Lancet* February 20, 1982.
12. *Pneumocystis pneumonia* in homosexual men. *California Morbidity* June 5, 1981.
13. Cunningham-Rundles S. Effects of nutritional status on immunological function. *Am J Clin Nutr* 35(5):1202, 1982.

NSC

Nutrition Support Pharmacy Practice Residency Accredited

The Medical University of South Carolina Hospital in Charleston recently became the first institution to receive accreditation for nutrition support pharmacy practice residency. The program was accredited by the American Society of Hospital Pharmacists' Commission on Credentialing at its August 1982 semi-annual meeting. Directed by Dr. Timothy W. Vanderveen, this residency is a specialized training program for post-doctoral pharmacists whose professional interests center on aggressive nutrition support as a mode of therapy.

The ASHP accreditation standard for nutrition support pharmacy residencies was developed in conjunction with the SIG on Intravenous Therapy and was approved by the ASHP Board of Directors in September 1981. The ASHP nutrition support residency accreditation program has also been recognized by the Board of Directors of A.S.P.E.N.

January 13, 1983

INT STATEMENT ON ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS) RELATED TO
TRANSFUSION

American Association of Blood Banks, American Red Cross, and Council of Community Blood Centers

Recent reports of abnormal immune function, Kaposi's sarcoma, and opportunistic infections in some gay males, Haitian entrants, and intravenous drug users and in others suggest that a new disease of unknown etiology has appeared in the United States. The disease has been called Acquired Immune Deficiency Syndrome (AIDS). Over 800 cases of AIDS have been reported with a very high mortality rate. While the major foci seem to be New York, San Francisco and Los Angeles, cases have been reported from other areas of the United States.

The predominant mode of transmission seems to be from person to person, probably involving intimate contact. The possibility of blood borne transmission, still unproven, has been raised. This latter impression is reinforced by eight confirmed cases in hemophiliacs treated with antihemophilic factor (AHF) concentrate, by a case in a newborn infant who received 19 units of blood components, one of which was from a donor who later died of AIDS, and by fewer than 10 unconfirmed case reports in other transfusion recipients. No agent has been isolated and there is no test for the disease or for potential carriers. Evidence of transmission by blood transfusion is inconclusive.

The finding of cases in hemophiliacs, especially those who use antihemophilic factor concentrate, coupled with the long incubation period and the continuing increase in reported cases is of sufficient concern to warrant the following suggestions for action on the part of blood banks and transfusion services. We realize that there is no absolute evidence that AIDS is transmitted by blood or blood products, and we understand the difficulty in making recommendations based on insufficient data. There is a need for additional information about this disease. Public health authorities should allocate resources to study the etiology of AIDS, its mode of transmission, and appropriate preventative measures and therapy. Blood centers and transfusion services should continue to assist public health agencies investigating AIDS. Given the possibility that AIDS may be spread by transfusion, we are obligated to respond with measures that seem reasonable at present. The lack of a specific test means that our major effort must revolve around two areas: 1) additional caution in the use of blood and blood products and 2) reasonable attempts to limit blood donation from individuals or groups that may have an unacceptably high risk of AIDS. Our specific suggestions follow:

1. Blood banks and transfusion services should further extend educational campaigns to physicians to balance the decision to use each blood component against the risks of transfusion, be they well-established (e.g. hepatitis, cytomegalovirus, malaria) or under investigation (e.g. AIDS).

2. Autologous blood transfusions, as an alternative to allogeneic transfusion, should be considered more frequently, especially in elective surgery.

3. Blood banks should plan to deal with increased requests for cryoprecipitate. Altered T lymphocyte function, a component of AIDS, has been reported to be less

frequent in hemophilia patients who are treated with cryoprecipitate rather than AHF concentrate. Although this does not necessarily imply that cryoprecipitate is free of risks, this finding may lead to an increased demand for cryoprecipitate.

4. Donor screening should include specific questions to detect possible AIDS or exposure to patients with AIDS. In particular, all donors should be asked questions designed to elicit a history of night sweats, unexplained fevers, unexpected weight loss, lymphadenopathy or Kaposi's sarcoma. All positive or suggestive answers should be evaluated before anyone donates.

5. Persons with responsibility for donor recruitment should not target their efforts toward groups that may have a high incidence of AIDS.

6. A major area of concern is whether attempts to limit voluntary blood donation by individuals from groups with a high prevalence of AIDS are appropriate at present. This question has medical, ethical and legal implications.

a. The presently available medical and scientific evidence that AIDS can be spread by blood components remains incomplete. Fewer than 10 cases of AIDS with possible linkage to transfusion have been seen despite approximately 10 million transfusions per year. Ongoing epidemiologic studies of all cases of AIDS are being conducted at this time. Should evidence of a clearly implicated donor population become apparent, specific recommendations to the blood banking community will be made promptly.

b. There is currently considerable pressure on the blood banking community to restrict blood donation by gay males. Direct or indirect questions about a donor's sexual preference are inappropriate. Such an invasion of privacy can be justified only if it demonstrates clear-cut benefit. In fact, there is reason to believe that such questions, no matter how well-intentioned, are ineffective in eliminating those donors who may carry AIDS. Blood banks should work with the leadership of groups which include some individuals at high risk of AIDS.

7. While there is no specific test for AIDS, there are laboratory and clinical findings that are present in nearly all AIDS patients. The use of these non-specific markers, for example, lymphopenia, immune complexes, and anti-HBc, are being evaluated in those areas of the country where AIDS is prevalent. We do not advise routine implementation of any laboratory screening program for AIDS by blood banks at this time.

These recommendations are made with full realization that the cause of AIDS is unknown and that evidence for its transmission by blood is inconclusive. We believe, however, that we must respond to the possibility that a new and infectious illness has surfaced. Until more information is available, we believe that the measures outlined above are prudent and appropriate.

We will continue to monitor new developments and revise our position promptly should medical or scientific finding indicate that a different course of action is warranted.

This joint statement was developed by the American Association of Blood Banks, the American Red Cross, and the Council of Community Blood Centers, with assistance from the American Blood Commission, National Gay Task Force, and the National Hemophilia Foundation Resources Association, the Centers for Disease Control and the Food and Drug Administration.



THE NATIONAL
HEMOPHILIA FOUNDATION

Recommendations of
the Medical and Scientific
Advisory Council submitted
to the NHF Board of Directors

THE NATIONAL HEMOPHILIA FOUNDATION
MEDICAL AND SCIENTIFIC ADVISORY COUNCIL

January 14, 1983

RECOMMENDATIONS TO PREVENT AIDS IN PATIENTS WITH HEMOPHILIA

I. Recommendations for physicians treating patients with hemophilia.

- A. It is recommended that cryoprecipitate be used to treat patients in the following groups except when there is an overriding medical indication:

- newborn infants and children under 4;
- newly identified patients never treated with factor VIII concentrate;
- patients with clinically mild hemophilia who require infrequent treatment.

Similar guidelines should be applied to factor IX deficiency patients where fresh frozen plasma can be used instead of concentrate.

- B. The potential advantages and disadvantages of cryoprecipitate versus factor VIII concentrate therapy for severe hemophilia A are not clear at the present time and are controversial. The Medical and Scientific Advisory Council does not offer a specific recommendation at this time, but will continue to review the data.
- C. DDAVP should be used whenever possible in patients with mild or moderate hemophilia A.
- D. All elective surgical procedures should be evaluated with respect to the possible advantages or disadvantages of a delay.

II. Recommendations to factor VIII concentrate manufacturers:

- A. Serious efforts should be made to exclude donors that might transmit AIDS. These should include:

1. Identification, by direct questioning, individuals who belong to groups at high risk of transmitting AIDS, specifically male homosexuals; intravenous drug users; and those who have recently resided in Haiti.
2. Evaluation and implementation (if verified) of surrogate laboratory tests that would identify individuals at high risk of AIDS transmission.
3. In addition, the manufacturers should cease using plasma obtained from donor centers that draw from population groups in which there is a significant AIDS incidence. It is clear from the epidemiologic data that the pool of individuals at risk for AIDS transmission is not uniform throughout the country and that a great deal could be achieved by excluding donors from the "hot spots".

- B. Efforts should be continued to expedite the development of processing methods that will inactivate viruses potentially present in factor VIII concentrates.

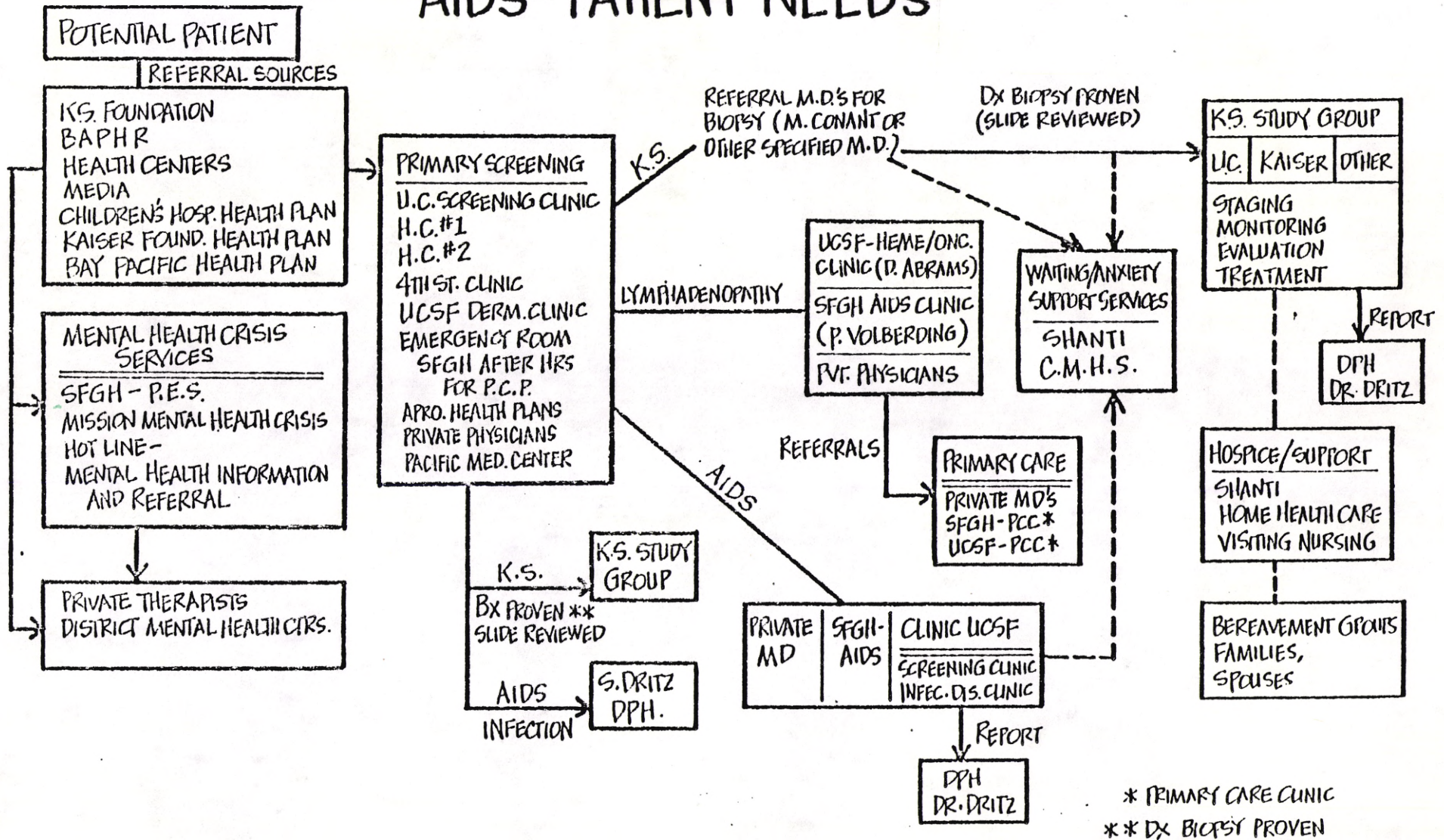
- over -

- C. There should be an evaluation of the possibility that the yield of factor VIII in pheresis donors could be increased using DDAVP or exercise to maximize yield. This would permit a reduction in the size of the donor pool and would compensate for losses in plasma that might occur due to steps noted above.
- D. There should be an evaluation of the feasibility of fractionating and processing plasma so that lyophilized small pool products are available. While this will certainly be more costly, it may be the only way to break out of the present dilemma without going to an all-cryoprecipitate effort.
- E. Concentrate manufacturers should immediately cease purchase of recovered plasma for factor VIII concentrate from blood centers that do not meet the criteria listed in II A above. These criteria should also apply to the production of cryoprecipitate.
- F. Manufacturers should accelerate efforts towards the production of coagulation factor concentrates by recombinant DNA technology.

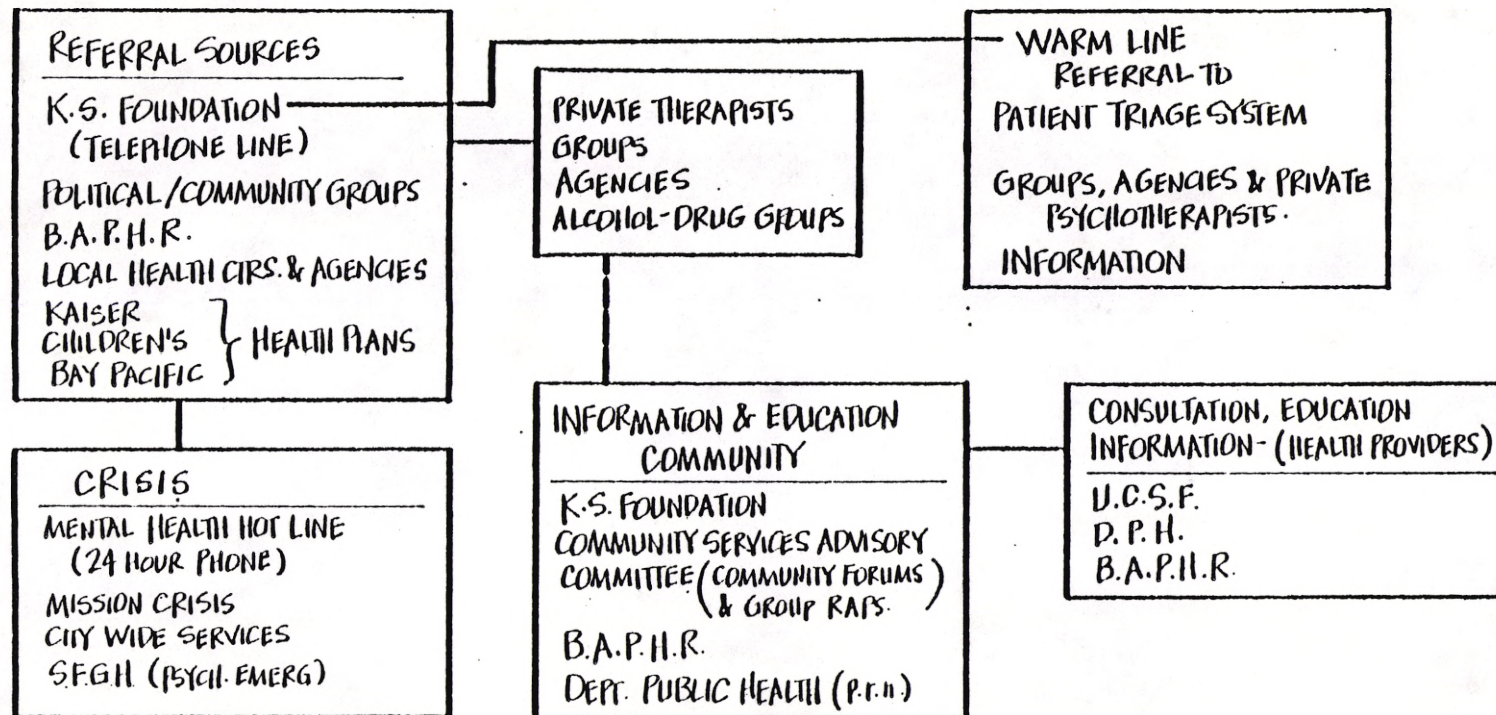
III. Recommendations to regional and community blood centers:

- A. Those centers that are in regions in which there is a very low incidence of AIDS should increase capacity for cryoprecipitate production to be used locally and in other regions.
- B. These centers should evaluate the feasibility of preparing small pool lyophilized cryoprecipitate for hemophilia treatment.

AIDS - PATIENT NEEDS



AIDS - WORRIED AND INTERESTED PERSONS



USEFUL RESOURCES

I. Health Provider

- A. UC Kaposi's Sarcoma Clinic
666-1407
- B. San Francisco General Hospital AIDS Clinical
821-8153

II. Reference Material

- A. Morbidity and Mortality Weekly Report
Published weekly
U.S. Department of Health and Human Services
Public Health Services/CDC
Atlanta, Georgia 30333

III. Organizations

- A. Kaposi's Sarcoma Research and Education Foundation
514 Castro Street
San Francisco, CA 94144
864-4376
- B. Gay Nurse Alliance
44 St. Marks Place
New York, NY 10003
(\$10.00/yr)
- C. Bay Area Physicians for Human Rights
Box 14546
San Francisco, CA 94114
(415)673-3189
(Membership restricted to physicians)
- D. National Coalition of Gay STD Services
P.O. Box 239
Milwaukee, WI 53201-0239
(\$25.00/yr)
- E. Lesbian and Gay Progressive Health Network
300 Riverside Drive, #11E
New York, NY 10025
(\$10.00/yr)
- F. National Gay Health Education Foundation, Inc.
c/o Jeanne Broussart
80 S. Elliot Place
Brooklyn, NY 11217
(Publishes the "National Gay Health Directory.")
- G. National Gay Task Force
80 Fifth Avenue, Suite 1601
New York, NY 10011
(\$30.00/yr)

If you work at UC,
and are concerned about ...

Your immunity/health, call _____ Carol Viele, CNS, X5100
B 235
or
Angie Lewis, RN, X2993

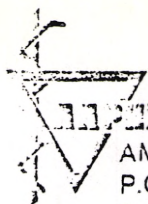
Infection control issues, call _____ Linda Rosendorf, RN, X5793
B 639
or
Jackie Octavio, RN, X5793
B 362
or
Steve Follansbee, MD, X5793

Support for patients, call _____ Shelley Hatfield, MSW, X1383 or 1655
or
Social Work Department, X1655

Support for staff, call _____ Pamela Minarik, RN, X1930
B 222
or
Linda Arnold, RN, X5451
B 182
or
Joan Dunkel, MSW, X1655 or 5621

Physician referral (for in-house questions), call Don Abrams, MD, X1421 or 2201

Staff Education, call _____ Angie Lewis, RN, X2993



AMERICAN ASSOCIATION OF PHYSICIANS FOR HUMAN RIGHTS
P.O. Box 14366, San Francisco, California 94114
Telephone (415) 673-3189

February 19, 1983

THE A.A.P.H.R. STATEMENT ON A.I.D.S. AND HEALTHFUL GAY MALE SEXUAL ACTIVITY

Healthful sexual behavior is an expression of one's natural sexual drive in a satisfying, disease-free way. We are supportive of gay sexual expression. As health educators, we believe that knowledge of specific gay sexual practices and their implications for health and disease are essential for a safe and satisfying sexual life.

As gay physicians, we wish to support and encourage the increasing demand for information regarding various sexually transmitted diseases (STD) and Acquired Immune Deficiency Syndrome (AIDS) in order to minimize your risks. Space is limited and recommendations will change as new information becomes available. Lest we appear to some to be too judgmental, we, too, have experienced these diseases and are trying to practice what we preach. We would rather be safe than sorry.

AIDS - A NEW SEXUALLY TRANSMITTED DISEASE

Your body's immune system is essential to fight off diseases. People who have AIDS cannot fight organisms that normally would not cause disease; they also cannot fight certain kinds of cancers. As a result they develop Kaposi's Sarcoma, Pneumocystis Pneumonia or several other more rare diseases.

General symptoms of AIDS include the following:

1. Swollen glands (enlarged lymph nodes, with or without pain, usually in the neck, armpits, or groin) lasting for more than one month.
2. Pink to purple flat or raised blotches or bumps usually painless, occurring on or under the skin, inside the mouth, nose, eyelids, or rectum. Initially they may look like bruises that do not go away, and they usually are harder than the skin around them.
3. Persistent white spots or unusual blemishes in the mouth.
4. Weight loss that is unexpected and greater than approximately ten pounds in less than two months.
5. Drenching night sweats which may occur on and off and last at least several weeks.

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AIDS & HEALTHFUL GAY MALE SEXUAL ACTIVITY
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6. Cough and shortness of breath (a persistent and often dry cough that is not from smoking and has lasted too long to be from a usual respiratory infection).
7. Fever (an elevation of temperature above 99 degrees) which has persisted for more than ten days.
8. Diarrhea (persistent and not explained by other causes).

REDUCING RISKS

Two major steps you can take to dramatically reduce your risk of AIDS are the following:

1. Decrease the number of different men with whom you have sex, and particularly with those men who also have many different sex partners. This does not mean to reduce the frequency of sex with any one partner, but only the number of different partners.
2. Do not inject any drugs not prescribed for you; avoid sexual contact with IV drug users.

Certain sexual practices are known to be associated with an increased risk of sexually transmitted diseases (STD). Reducing these factors may decrease your risk of AIDS:

1. One-time encounters with anonymous partners and/or group sex.
2. Oral-anal contact ("rimming").
3. Fisting (both giving and receiving).
4. Active or passive rectal intercourse (use of condoms may be helpful).
5. Fecal contamination (Scat).

An additional probable risk factor may be mucous membrane (mouth or rectum) contact with semen or urine.

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POSITIVE STEPS YOU SHOULD TAKE

1. Know your sex partner and ask about his health. When in doubt, back out!
2. Increase touching and general body contact; the risk of kissing on the lips is unknown.
3. Shower before sex and inspect your partner.
4. Take good care of your body and general health (adequate rest, good nutrition, physical exercise, reduction of stress, reduction of toxic substances - alcohol, cigarettes, marijuana, poppers, non-prescription drugs).

If you know or suspect that you have any disease you could give to someone else, don't risk the health of others by having sex. Consult a personal physician who is up to date on gay health issues, and have the courage to tell the physician you are gay and wish to discuss AIDS.

We have taken the position that the following individuals should not donate blood at this time:

1. Any individual who has AIDS (or one of its symptoms).
2. Any individual who has had sexual contact with someone with AIDS.
3. Any individual who has had sexual contact with many different partners or with IV drug users.
4. Any individual who may be uncertain about his medical state with regard to AIDS should consult his physician prior to donating blood.

In order to make healthy choices about our sexual expression, ideally we should be able to draw on clear, factual information. However, with the incomplete information we currently have and with the seriousness of this disease it is better to be perhaps overly cautious in our recommendations than to find later that we have not been cautious enough.

As we offer these guidelines, we are actively working to marshal the manpower and funds necessary to solve this health crisis as soon as possible.



HOSPITALS AND CLINICS

SAN FRANCISCO, CALIFORNIA 94143

March 1983

INFORMATION FOR GAY MALE AIDS PATIENTS:

COMMON PROBLEMS, LIFESTYLE ISSUES,

AND RESOURCES

Helen Schietinger, MA, RN

KS Clinic, UCSF

and

AIDS Clinic, SF General Hospital

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I. COMMON PROBLEMS AND RESOURCES FOR COPING

A. Common Issues Which You May Face

1. Need for Information

- physicians have limited time to answer your questions
- there is limited medical knowledge about this new disease; much is not known, or is speculative or contradictory
- press coverage has often been sensationalist and inaccurate

2. Dealing with the Misinformation Which You and Others May Have and with Common Reactions To It

Myths and Stereotypes: (these are based primarily on media information and community "gossip")

- "It's a 'Gay Plague', 'Gay Cancer', etc."
- "Everyone who has it is very sexually active and uses a lot of drugs, especially poppers."
- "You can catch it by being around a patient."
- "It's always fatal."

Reactions Experienced by Many AIDS Patients:

- guilt about being gay
- guilt about having been or currently being sexually active
- shame and/or fear of telling friends and/or family
- not wanting to associate with other patients or other gay men
- feeling like a "leper"

Reactions of Others Will Vary:

- some are supportive and want to help in any way they can
- some avoid patients, even those who are close friends
- some stereotype patients in order to feel different from them, and therefore feel safe

Facts: Homosexuality does not cause disease; germs cause disease

- To date, 75% of the AIDS patients are gay men.
- These men cover a range from very sexually active to practically celibate, and their use of drugs ranges from none to a lot.
- AIDS is thought to be caused by an infectious agent, such as a virus which is spread by blood or body secretions shared in intimate (sexual) contact. People do not share body secretions simply by being around one another. (Refer to section II).
- There are AIDS patients who have died, but also AIDS patients who are working and continuing their lives as they did before they were diagnosed. Talking to other patients can be very helpful in understanding the range of degrees of the illness.

3. Deciding When To Tell Others and What To Tell Them

- Family
- Former and current sexual partners
- Friends
- Employers and fellow workers
- Roommates

You may find it helpful to talk to other AIDS patients or to a health care provider. Also, the information in this booklet will answer some of you questions.

4. Protecting Your Privacy, Either as a Gay Male or as an AIDS Patient

- you have a right to expect your identity and information on your case to be kept confidential unless you choose to go "public".
- if you find this information has been made public, talk with your health care provider and/or the KS Foundation.

5. Coping with and Exploring Your Emotional Reactions and Changes in Self-Image Associated with Being Sick

- some of your feelings may include anger, fear of loss of control and/or independence, fear of dying, or fear of the unknown.
- you may find yourself dealing with and grieving for loss of old habits, familiar sexual patterns, etc.

6. Dealing with a Maze of Various Doctors and Specialists (i.e., the Medical Establishment). Bring a friend to your doctor's appointment or to your tests to help you:

- ask questions
- speak up
- listen, and sort it all out later.

7. Handling Changes in Your Financial Situation

- major medical expenses, especially if you do not have or if you have lost your medical insurance
- possibly loss of employment
- possibly extra travel and/or housing expenses

Financial problems can be a new and very difficult burden. Refer to the resources under "B" to find help in areas such as housing, medical coverage, applying for disability, etc.

8. Getting One's Affairs in Order

Today, any adult should have a written will, particularly if she/he is gay. Many patients who had not done so before their diagnosis have decided to write a will now. Others have also chosen to appoint power of attorney to one of their close friends in the event they become unable to care for themselves. This is especially important if you are estranged from your family. Your next-of-kin will assume legal responsibility for you if not otherwise stated. Those who have written a will and/or appointed a power of attorney have found that this enables them to relax and get on with living. (The Shanti Project can provide resources for writing a legal will without paying a lawyer). Others have found that they were under too much stress when they first were diagnosed, and decided to wait until later to deal with these issues.

B. Resources You May Find Useful

1. Information

- K.S. Foundation - 864-4376

- *patient and community information
- *assistance with referrals

-Medical Information Meeting

- *Wednesday, 3-4:00 pm
- *SF General Hospital AIDS Clinic, Ward 86, Family Practice Building, corner of 22nd and Potrero
- *This is a weekly presentation of medical information about AIDS by the doctors and nurses of the AIDS clinic at SFGH.

-K.S. Patient Forum

- *This is only for K.S. patients.
- *Monthly meetings at the K.S. Clinic for K.S. patients to talk about medical and related aspects of K.S. and AIDS. Held the second Thursday of each month at 11 am in the Dermatology Conference Room, 3rd floor, 400 Parnassus.

2. Assistance with Financial Issues

-Social Security Office General Information - 996-3000

Applying for disability can be difficult and complicated. Ask for help from your social worker. There will soon be other resources available to help you apply. Ask the K.S. Foundation about these.

-Social Workers: See next section

3. Personal Support Individually or in Groups. Also Support for Loved Ones and/or Family

-Shanti Project - 558-9644

*Individual counseling and support groups

*Help for:

-people who have been told they may have an AIDS illness and are waiting for test results

-people who have been diagnosed with an AIDS illness

-family and loved ones of AIDS patients

*Jim Geary, Executive Director; Steve Peskind, Office Manager

-Brookes Linten, Social Worker for SFGH AIDS Clinic
821-8478 or 821-8436

-Social Workers at individual hospitals

-Operation Concern - 563-0202

-K.S. Foundation - 864-4376

*List of therapists who are aware of the issues which AIDS patients face

-S.F. Health Department

*Support groups for AIDS patients

-Michael Lipp - 558-2507

-Jay Canada - 558-2551

This meeting is on Tuesday nights at Health Center I.

4. Personal Support in a Crisis

-Suicide Prevention - 221-1423

Someone is available to talk twenty-four hours a day. A good resource if you want to talk about your feelings. They deal with many issues besides suicide, and are familiar with AIDS.

-Mission Crisis Center - 558-2071

8 am to 11 pm - Ask for Kim Storch or Jim Tate

II. LIFESTYLE ISSUES

A. Is AIDS Contagious?

So far, no one has identified an organism which causes AIDS. Regardless, most medical experts believe that AIDS is caused by an infectious agent such as a virus.

It is clear by who has NOT gotten AIDS that the organism is probably not airborne. If it were spread through the air, straight people who are around gay AIDS patients would have gotten it too. So far, no medical personnel who work with AIDS patients, and no people who have been in the same workplace as a patient, have gotten AIDS unless they are in a risk category (i.e., unless they are gay men, IV drug abusers, etc.).

The people who have gotten AIDS, for the most part, fit into particular groups: homosexual men, IV drug abusers, Haitians, prisoners, sexual partners of IV drug abusers, hemophiliacs, babies born to mothers who abuse IV drugs, and a baby who had blood transfusions. Because of who has gotten AIDS, it is believed that AIDS is spread by blood and by body secretions shared in close, intimate (sexual) contact. Also, it is believed that carriers of the supposed virus may be able to spread the virus or other organism for long periods of time, up to 24 months. We assume that you came down with AIDS by having sexual contact with someone who was carrying the organism. That person may not have had any symptoms of AIDS.

You may still be carrying a virus or other organism which causes AIDS which may be spread by body secretions. Below is a list of body secretions and tips on how to be very careful not to spread them. The secretions may or may not be carrying the supposed AIDS organism, but it is better to be safe than sorry. Hopefully, these guidelines will enable you to relax about what is safe and will prevent unfortunate situations such as friends or roommates avoiding you.

1. Saliva - Sharing a bathroom with others is fine; sharing a toothbrush is not. It's probably not a good idea to share the same glass or silverware at the same time. But sharing a kitchen or sharing dishes which have been washed with soap and water after use should be perfectly safe. Principles of common sense hygiene should be enough to make living with others safe.
2. Mucus - When you blow your nose: a) discard the tissue in the toilet or in a paper bag or lined garbage can; b) wash your hands; and c) when coughing, cover your mouth with a tissue or handkerchief.
3. Urine - After urinating, wash your hands.
4. Feces - After a bowel movement, wash your hands. Be particularly careful if you have diarrhea, or if you are collecting a stool specimen.

5. Semen - After ejaculation: a) it is best to ejaculate into your hand or into a condom; b) make certain the semen is discarded in the sink; or in a tissue placed in the toilet, in a paper bag, or a lined garbage can; c) wash your hands; and d) see section on sexual activity for more information.
6. Blood and Wound Secretions - (cuts, scabs, sores, bloody nose or gums): a) when you take off a bandaid or dressing, discard the dressing in a plastic bag or lined garbage can; b) wash your hands; c) when getting dental work done, suggest that the hygienist or dentist wear gloves and tell them you have AIDS; and d) do not donate blood. NOTE: You need to be more careful with blood than any other body fluid.

So far, everything has been simple, common sense. Here's the last bit of logical information. For any secretion to affect another person, there must be a way for it to go from your body into theirs: there must be a point of entry. This could be in the mouth, mucous membrane of the nose, eyes or anus, or a cut in the skin. You can always wash secretions off of your hands, their hands, the counter top, etc. There is only one area in which keeping your body secretions out of other people is a real problem, and that is in the area of sexuality. That is why the subject has a whole section of its own.

B. Sexuality and Sexual Activity

Sexual orientation itself only causes problems because of society's values and negative judgements. Being homosexual can cause shame only because of what others say, and can cause guilt only because we grew up hearing that being gay was bad. There is nothing inherently wrong with homosexuality.

In and of itself, homosexual activity does not cause disease. There are many diseases, however, which can be spread from person to person in sexual activity. We assume that AIDS is probably one of them, and that you may be capable of transmitting AIDS during sexual activity in which body fluids are exchanged (semen, urine, saliva, feces, blood). Also, because you are immunocompromised, you need to protect yourself from catching other sexually transmitted diseases which can be spread during sexual activity.

For most people, being sexual is a very important way of being close to others, of interacting with others, and of releasing tension. Many patients whose sex drive disappears in the crisis of first being sick, find that they again feel a need for sexual contact with others after 2 or 3 months.

What are your options?

*Refraining from sexual activity with other people. If you choose celibacy, you may need to continue or increase being intimate with other people in other ways (massage and hugging are two examples).

*Self-pleasuring. Masturbating is a good way of being sexual if you properly dispose of your semen (see previous section). This can involve videos, phone sex, books or jacking off with other people.

*If you decide to continue being sexual with others:

- a. You should tell your partner(s) you have a potentially transmissible illness -- AIDS. For some patients, this has resulted in being turned down. In many cases, however, it has led to close contact, a discussion about how to be sexual without sharing body secretions, and incredibly intimate sexual encounters. It is only fair to allow your partner to decide whether he feels comfortable being sexual with you. AIDS is not well-defined; and, though it is felt that avoiding the sharing of body fluids will minimize risk of transmission, it is not known for certain.
- b. Make sure your partners are disease-free and make sure that you don't expose yourself to intestinal parasites, hepatitis, herpes, CMV, etc.
 - 1) Don't ingest semen, by mouth or rectum, to avoid CMV.
 - 2) The best, probably only, way to avoid intestinal parasites is to avoid coming in direct contact with the mucous membrane of the rectum and intestinal tract, and with fecal material, and with anything which has been inside the rectum of a person who has amoebas. Because there is an epidemic of amoebas in the gay men's community, and because many people who have amoebas have no symptoms, it is safest to assume that anyone might have amoebas.
 - 3) Herpes lesions, syphilis chancres, and venereal warts are visible except inside the mouth or anus. Look for them on your partner. You can catch these diseases by direct contact with the lesion.
 - 4) Gonorrhea doesn't always show, although a bad case of the drip is pretty obvious.
- c. Discuss the limits of your sexual activity with your partner prior to engaging in sex so that each person can be responsible for making sure the limits are honored.
- d. Some suggestions for having sex in ways which do not expose your partner to your body fluids (for your safety, you probably should not expose yourself to your partner's body fluids either!):

*The active partner in rectal intercourse could wear a condom (not an inexpensive one which is more likely to break). When "pulling out", be sure to hold onto the condom.

*Avoid French kissing. Stick to ears, nipples, umbilicus, etc.
Explore erogenous zones other than mouth and anus.

These are considerable restrictions, but many gay men are making changes in their sexual activities. Many are finding their new activities to be fun, satisfying, and increasingly intimate.

Above all, don't panic. AIDS and restricted sexual activity are not prison sentences. Live in a healthy way, and as fully as possible. Talk with other patients (Sex is a regular topic of conversation among AIDS patients) and other people.

C. Factors Which May Help the Body's Immune System and Overall Health

1. Nutrition

- Eat well-balanced meals to get enough protein, vitamins, minerals and calories.
- Take vitamins if your diet is inadequate.
- Special considerations: If you have any of the following, you have special nutritional requirements and need to talk with your physician and/or the nutritionist. Nutritionist at UC Medical Center: Kathy McHenry, RD, MS - 666-2291.

*Diarrhea - Causes depletion of potassium, and lack of absorption of important vitamins, minerals, and nutrients. If you have diarrhea that lasts more than 4 or 5 days, you should see your doctor.

*Weight Loss - Taxes your body's resources by making it tap into its own reserve of protein and nutrients. If you lose a lot of weight (10 lbs. or more), you have special nutritional needs.

*Lack of Appetite - Often chemotherapy, other medications, and simply being sick can cause you to lose your appetite. Ask a nurse or nutritionist for help if you have this problem. The single most important thing you can do for yourself right now is provide your body with excellent nutrition. Eating is critical.

*Recent Alcohol Abuse - Causes depletion of important vitamins, minerals, and nutrients. Multi-vitamins, especially B complex and minerals, should be taken for 3 months.

2. Proper Exercise and Rest

- Helping the body be healthy means getting enough sleep, often more than usual if the body is fighting infection. If you get tired, take a nap!

-Exercise is important for circulation, appetite, good muscle tone, and proper elimination. Amount of exercise will vary from person to person. If you were physically active before and feel good, continue your previous activities. If you are feeling exhausted much of the time, pick your best time of day and take a short walk, resting afterwards. Talk to your doctors about what's best for you.

3. Reducing Stress and Maintaining Emotional Well-Being

- It is known that severe stress can contribute to illness.

-Many things can be stressful, from not getting enough sleep and working long hours, to going on a vacation. Certainly being diagnosed with AIDS is stressful.

-There may be aspects of your daily life which you may decide are too stressful right now, and which you may want to change.

-There are also activities such as meditation and massage which you might choose to add to your life to help manage or reduce stress in this difficult time.

-SFGH Alternative Therapies Unit - 821-5139. This department offers a variety of activities, including acupuncture, acupressure, and biofeedback, to help the body relax and to enhance healing.

-Many people benefit from talking to someone when they are experiencing difficult times. There are many excellent counselors and therapists available in the community who are knowledgeable about the crisis of AIDS and its impact on patients. For example, there are resources or lists of therapists at the following places:

- *Shanti Project - 558-9644
- *Operation Concern - 563-0202
- *Mission Crisis Center - 558-2071
- *K.S. Foundation - 864-4376
- *SFGH AIDS Clinic - 821-8830
- *K.S. Clinic - 666-1407

4. Cutting Down on Alcohol and Drugs

-It is known that alcohol, marijuana, cocaine, and other recreational drugs take a toll on the body, and negatively affect the immune system.

-Alcohol and drugs blur your ability to make good decisions; and, when taken in excess, can contribute to your not taking care of yourself.

-Limited use of alcohol, meaning one to two drinks occasionally, is acceptable to some doctors (there is the same amount of alcohol in a glass of wine, bottle of beer, or shot of whiskey). However, individuals who have chronically abused alcohol or drugs should strongly consider stopping altogether.

-If you have difficulty cutting down on alcohol or drugs, don't hesitate to ask for help. This is not an easy time to quit using something that helps you relax temporarily. The overall effect of drugs/alcohol use is temporary relaxation followed by a long period of irritability.

-Getting high is a natural phenomenon which can be reached through alcohol and drugs, but also through relaxation, dance, music, sex, and other natural activities. You can learn to get high naturally.

-Resources

- *Substance Abuse Services - 863-8111 - 18th Street Services
- *Alcoholics Anonymous - 661-1828 - There are Gay AA meetings and centers in town.
- *Narcotics Anonymous - 893-2686

5. Avoiding Sexually Transmitted As Well As Other Diseases

- Your immune system is not functioning properly; you should not expose yourself to infections, particularly sexually transmitted diseases (STD's).
- AIDS patients do not seem to be more susceptible than other people to common colds or bacterial infections. The immune deficiency of AIDS leaves you unprotected against fungal and yeast infections in particular and opportunistic infections such as pneumocystis pneumonia. Nevertheless, use common sense about exposing yourself to people who are ill with the flu, etc. There doesn't seem to be any reason for you to avoid public places.
- Avoid exposure to animal wastes. Wear rubber gloves when cleaning behind pets. If your cat or other pet appears to be sick, have it checked immediately. (You may be susceptible to some infections which animals carry).
- There are several very common STD's in the gay men's community, some of which may not cause symptoms in men who are spreading them. (Hepatitis B, amoebiasis, other intestinal parasites, CMV).
- Thus if you decide to continue to be sexual, you should be certain your partners are free of disease. Also limit the ways in which you are sexual.
- This means not having anonymous sex, and only being with people whom you know have been medically checked for hepatitis, intestinal parasites, gonorrhea and syphilis, and who have no herpes lesions or venereal warts. Please be sure to read one of the several brochures about healthy gay male sex, available through the K.S. Foundation or the K.S. Clinic ("Play Fair": "Guidelines and Recommendations for Healthy Gay Sex Activity"). Also, refer to Section B.

AIDS BIBLIOGRAPHY

- _____, "AIDS and Preventive Treatment In Hemophilia," New England Journal of Medicine, 308:2 (Jan. 13, 1983), 94-95.
- Allen, J. and Mellin, G., "The New Epidemic," AJN, (November, 1982), 1718-1722.
- Apuzzo-Berger, Diane, "AIDS: Could You Be At Risk?" RN, (February, 1983), 67-78.
- Bishop, Jerry E., "Epidemic," Discover, 3:9 (September, 1982), 35-38.
- Cohen, B.D., "Is There Death After Sex?" Rolling Stone, (February 3, 1983), 17-50.
- Conant, M., Volberding, P., et al, "Squamous Cell Carcinoma in Sexual Partners of K.S. Patient," Lancet, (January 30, 1982).
- Dolin, R. and Harris, N.L., "A 29 Year Old Man With Cryoglobulinemia, Glomerulonephritis, and Lymphadenopathy," New England Journal of Medicine, 306:11 (March 18, 1982), 657-668.
- Drew, L.W., Mintz, L., et al, "Prevalence of Cytomegalovirus Infection in Homosexual Men," J. Infectious Diseases, 143:2, (February, 1981).
- _____, "Epidemiologic Aspects of the Current Outbreak of Kaposi's Sarcoma and Opportunistic Infections," New England Journal of Medicine, 306:4, (January 28, 1982), 248-252.
- Follansbee, S.E. et al, "An Outbreak of Pneumocystis Carinii Pneumonia in Homosexual Men," Annals of Internal Medicine, 96: (June, 1982).
- Gange, R.W., and Jones, E.W., "Kaposi's Sarcoma and Immunosuppressive Therapy: An Appraisal," Clinical and Experimental Dermatology, 3 (1978), 135-146.
- Goedert, J.J., Neuland, C.Y., Wallen, W.C. et al, "Amyl Nitrate May Alter T Lymphocytes in Homosexual Men," Lancet, (February 20, 1982), 412-416.
- Gottlieb, M.S., Schroff, R., Schanker, H.M. et al, "Pneumocystis Carinii Pneumonia and Mucosal Candidiasis in Previously Healthy Men," New England Journal of Medicine, 305:24 (December 10, 1982), 1425-1431.
- Hersh, E.M. et al, "Elevated Serum Thymosin a₁ Levels Associated With Evidence of Immune Disregulation in Male Homosexuals with A History of Infectious Diseases or K.S.," New England Journal of Medicine, 308:1 (January 6, 1983), 45-46.

- Holland, G.N. et al, "Retinal Cotton-Wool Patches in AIDS," New England Journal of Medicine, 307:27 (December 30, 1982), 1704.
- Klein, E., Schwartz, R.A., Laor, Y., et al, "Treatment of Kaposi's Sarcoma with Vinblastine," Cancer, 45:3 (February 1, 1980), 427-431.
- Lo, T.C., Salzman, F.A., Smedal, M.I., "Radiotherapy for Kaposi's Sarcoma," Cancer, 45 (February 15, 1980), 684-687.
- Masur, H., Michelis, M.A., Greene, J.B., et al, "An Outbreak of Community Acquired Pneumocystis Carinii Pneumonia: Initial Manifestation of Cellular Immune Dysfunction," New England Journal of Medicine, 305:24 (December 10, 1981), 1431-1438.
- Miller, J.R. et al, "Progressive Multifocal Leukoencephalopathy In A Male Homosexual With T-Cell Deficiency," New England Journal of Medicine, 307:23, (December 2, 1982), 1436-38.
- Ostrow, David, Homosexual Health Report, 1:1 (1982), 3-14.
- Safai, B. and Good, R., "Kaposi's Sarcoma: A Review and Recent Developments," CA-A Cancer Journal for Clinicians, 31 (January/February, 1981), 2-12.
- Siegal, F.P. et al, "Severe Acquired Immunodeficiency In Male Homosexuals, Manifested by Chronic Perianal Ulcerative Herpes Simplex Lesions," New England Journal of Medicine, 305 (1981), 1439-1444.
- Snider, W.D., et al, "Primary Lymphoma of the Nervous System Associated With AIDS," New England Journal of Medicine, 308:1 (January 6, 1983), 45.
- _____, "Special Report: Epidemiological Aspects of the Current Outbreak of Kaposi's Sarcoma and Opportunistic Infections," New England Journal of Medicine, 306 (1982), 248-252.
- Taylor, J.F., Templeton, A.C., Vogel, C.L., et al, "Kaposi's Sarcoma in Uganda: A Clinico-Pathological Study," International Journal of Cancer, 8 (1971), 122-135.
- _____, "Update on Acquired Immune Deficiency Syndrome (AIDS) - United States," MMWR, 31:37 (September 24, 1982), 507-514.
- Vieira, J., Frank, E., et al, "AIDS In Haitians," New England Journal of Medicine, 308:3 (January 20, 1983), 125-129.
- Wallace, J., et al, "T-Cell Ratios in Homosexuals," Lancet, April 17, 1982, 908.