



# SINGAPORE MEDICAL ASSOCIATION NEWSLETTER

FOR PRIVATE CIRCULATION ONLY

VOL. 21 NO. 3

JULY/AUGUST 1990

MCI(P) 6/2/90

PP(S) 18/12/89

## WOMEN WORKERS: SPECIAL PROTECTION OR ABSOLUTE EQUALITY?

by Dr K Soin

Paper presented at the APACPH Symposium on  
"Health of Women At Work" held on 11 July 1990

Historically, protective measures for women workers were instituted for a number of reasons. Women were seen as fragile and weak creatures and therefore needed protection like children. In many western European countries, the first labour laws regulated work for women and often grouped them together with children. Women in many countries did not have a vote. Women were also without full civil and political rights and did not have the right to conclude a contract.

Without legislative protection women workers could have been easily exploited. While men workers were also in need of protection, many social historians pointed out that politically it was easier to adopt protective measures for women rather than men, because women were viewed as weak and their primary role was considered to be as mothers and homemakers and if they went outside this boundary, then some protection had to be extended to them.

Let us look at the protective measures that are in operation today for women workers. The ILO has done an analysis of the specific legal measures adopted by many countries on conditions of work for women. These "protective" measures come under certain broad categories and the following is the classification used by ILO.

- Prohibition of night work
- Organisation of working time
- Facilities at the work place
- Employment prohibitions and limitations.

### PROHIBITION OF NIGHT WORK

This is probably the most controversial of all protective measures. In most countries there is some prohibition of night work by women. Only about 20 countries have no legislation prohibiting night work by women. In some of these countries, e.g. Canada, New Zealand, Ireland and Israel, laws prohibiting night work by women workers have been repealed mostly in the last 10 years. In a small number of countries, night work is prohibited for both men and women (Belgium, Switzerland, Norway and Sweden). Some workers organisations have expressed very strong views that night work is abnormal and is inherently detrimental to the health and welfare of all workers - both men and women. These organisations agree that some night work is essential but should be restricted to cases of real necessity.

The law in Singapore states that:-

"No female workman who is pregnant shall be employed to work during the night or any part thereof unless she has for this purpose consented in writing and is not certified unfit by a medical officer or a registered medical practitioner." In this regulation "night" means the period between 11 o'clock in the evening and 6 o'clock the following morning. This law has resulted from the repeal of a previous legislation prohibiting night work for all women in industry.

With regard to night work it has been argued that protective measures for

women contravene the principle of equality because differential treatment in this respect has no objective foundation. There is no biological reason why women cannot stay up at night just as long as men can. In fact mothers of infants and young babies do more night work than the fathers. The prohibition of night work prevents women from obtaining certain jobs, particularly in industries that operate continuous shifts and this often hinders women's access to higher wages. Also the prohibition of night work for women can pose a great stress on the labour market if there is a labour shortage and this can damage the efficiency of enterprises with an overall negative effect on national economies.

There is a controversial convention of the ILO - this is No 89 - which prohibits night work by women in factories but permits it in police work, nursing and public transport - this type of work is more dangerous than working in factories - the New Zealand government has denounced this convention and has said that it is more discriminatory rather than protective.

### ORGANISATION OF WORKING TIME

Under this heading come the protective measures that are applicable to women workers in respect of working time and rest periods. This includes working hours, overtime working, nursing breaks and special leave in connection with children. In about 100 countries, there is legislation concerning the organisation of working time which refers

specifically to women. In some of these countries, the legislation only applies to pregnant and nursing women. Nursing breaks have been identified in a significant number of countries. In some countries, women with children have the right to longer paid annual leave or to special leave to care for a sick child or to special non-remunerated leave in connection with babies and younger children.

In Singapore, there is no legislation with regard to organisation of working time for women. However, in the civil service, women with new born babies can take up to 3 years no-pay leave. Private employers have not accepted this scheme as there is no legislation to enforce it. This measure if accepted could increase the economic costs of employing women of child-bearing age and therefore may act against the employment opportunities of women.

### FACILITIES AT THE WORK PLACE

In a limited number of countries special requirements exist for women workers with regard to various kinds of facilities at the workplace e.g. provision

of seats, rest rooms, changing rooms and sanitary facilities. Nursing rooms are provided for in 29 countries - mainly in developing countries e.g. Africa and Latin America. In Singapore there is no legislation with regard to this matter.

### EMPLOYMENT PROHIBITIONS AND LIMITATIONS

The legislation of many countries prohibits or restricts the employment of women in certain kinds of work e.g.

- dangerous, arduous or unhealthy work, e.g. work in compressed air caissons, handling of explosives and handling of pneumatic and vibrating machines
- underground work
- manual transport of loads
- work with dangerous agents or substances
- other types of prohibitions that do not fall under the above 4 headings.

Underground work is prohibited for women in the majority of countries either in general or more often in mines and quarries. In Singapore there was a prohibition of underground work for females but this was repealed in 1985.

It is also common for countries to regulate the manual transport of loads for women. Women usually are

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## EDITORIAL

### NEW CHECKS AND BALANCES

The rise of privatised medicine has created situations seldom experienced before. One is the surge to make one's services known so that they can be better patronised. Doctors in hospitals appear in newspapers and other mass media to report about breakthroughs and firsts. While it can be argued that these are newsworthy, the advertising impact cannot be ignored. Such action may well be beyond the control of individual doctors because their hospital administrators were desirous of such publicity. To many doctors who believe in conventional medical ethics, such newspaper reports are unacceptable and even revolting. It is therefore timely that the Singapore Medical Council is reviewing the ethical position of doctors who are employed in hospitals where the administrators feel that reporting achievements is not advertising. New checks and balances are obviously required if conventional ethics are regarded as "old fashioned."

Another check and balance that is lost in privatised medicine is in the allocation of scarce resources. Instead of allocating on physical and medical needs in a health care delivery system that we are hitherto familiar with, money is now beginning to be the allocator. The result is what is known as "inverse care law", namely, those in greatest need are the least able to afford. There are reports, albeit anecdotal, of patients discharging themselves because they cannot afford the fees to continue treatment. The assurance that the Government will pay for the needy may be difficult to implement in practice in the grey cases because it is often difficult to quantitate what we mean by poor. There is no easy solution in sight. Cost containment has been promoted as an answer. Indeed, this is probably the only key to accessibility of needed services. Cost containment is difficult in a free medical enterprise. Simply because in free medical enterprise the moral checks the doctors have upon themselves are removed. The attitude shifts from how can I get this patient well to how much can this patient contribute to my enterprise so that we can be "competitive". Should we be competing to see who can have a better bottomline for all to see or should we be competing to get our patients well with the most effective use of scarce medical resources?

GLG

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## JOURNAL ROUNDUP -

by Dr Chee Yam Cheng

### What Physicians Should Know About The Nursing Shortage

Hospital care deteriorates as nurses' ability to provide safe, effective patient care declines due to the nursing shortage. The American Medical Association proposed the RCT (registered care technologist) as a new type of patient care provider. The Commonwealth Fund produced a Report, "What to do about the nursing shortage" - a study report conducted in 1988 and 1989, aimed at the labour supply demand gap and the preferred responses for the shorter and longer term.

421 acute care hospitals in six metropolitan areas (New York, Chicago, Los Angeles, Houston, Boston and Pittsburgh) were surveyed together with 15,416 responses to questionnaires from randomly selected 1987 state licensed nurses.

The more important findings are:

- 1) In four of the six areas, 14% budgetted registered nurse positions were vacant in the spring of 1988.

- 2) There was little reserve nurse capacity per hospital to tap on in the short term. Up to one in three hospital nurses worked less than full time, to devote themselves to family and child-rearing responsibilities.

- 3) Administrators closed beds, delayed elective surgery, recruited overseas and adopted make-shift arrangements in an effort to cope. 85% of administrators raised nursing salaries 5 to 15% and also offered increased shift differentials. The nurse respondents indicated the need for improved salaries, scheduling and benefits as important.

The present nurse shortage is a long term structural problem calling for fundamental changes in recruiting and educating nursing students and for basic reforms on how hospitals use nurses. The shortage reflects the explosive growth of demand for nurses elicited by new medical technology and aging of the population. This has led to a doubling in the ratio of nurse to patients from 50 to 100 nurses per 100 hospital

admissions. Two out of every five hospital nurses are currently assigned to critical care units.

The pool of 18-24 year olds has declined while career opportunities for them have broadened. Nursing admissions into colleges and universities have dropped 27% from 1983 to 1987.

Also the median age of all nursing graduates is 26. The stereotype of the 21 or 22 year old newly graduated nurse is anachronistic.

What ought to be done? One, greater attraction to pursue nursing. Two, hospital sector must accommodate to the greatest possible degree the scheduling needs of nurses, most of whom have families. Work settings that challenge nursing skills and competence, appropriate career opportunities with commensurate salaries are necessary; technological and personnel support must be provided to relieve the nurse to do what she does best - provide and manage patients care.

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## WELCOME

The SMA welcomes the following new members:-

David Michael Allen	Koh Hock Chuan Adrian	See Eng Joo
Ang Pek San Lawrence	Koh Thong Sam	Sim Kwang Wei Eugene
Vivian Balakrishnan	Kwok Yuet Har Cynthia	Sit Kwok Hung
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## GARFIELD SAYS: CONTRIVED

I cheered the parade as lustily as anybody else in the Padang, although I was only watching it on TV in my friend's air-conditioned bedroom and drinking beer, eating "kerupok" etc at the same time.

I also swung until the wee hours on the night when Singapore held the biggest, the most extravagant and the most beautiful party in the world but in a disco. You should have seen my lambada movements.

I know, judging by looks, few would believe that I am capable and for that matter believe that I have ever seen the inside of a disco. But appearance can be deceptive. How many, may I ask have seen me when I really let my hair down? The same goes for our politicians. Their serious countenance, I suspect, have camouflaged the lighter side of their interiors. If not, tell me, how could they have spawned the idea of such a party?

The patriotic disco manager had installed a big TV screen to bring in the action live from Orchard Road, so that the indoor type of loyal citizens like me can join in the festivities.

But August had come and gone and the flags and banners were soon taken down. We are again sober citizens helter-skelter engaged in our daily tasks. However, I am one of those who suffered a side-effect. It is well known that after an important event, be it in sport, entertainment, religion, politics or social, there will be an emotional letdown. The greater the hype, the greater would be the letdown.

I was feeling blue, so to speak. As is common during such an episode, I felt rather confused. I asked myself, what is it all about? Of course we are out to show the world one people, one nation, one Singapore and what a glorious piece of real estate we have here but I have this persistent feeling that there is something missing or something misplaced.

I did not get the answer till many days later. To be exact, it was the day when the PM gave his last National Day address.

He was complaining

about what he perceived as the mindless jingoism he heard his grandchildren utter when they visit him. Things repeated from what they heard from the TV. I do not mean to draw any parallels with our celebrations, it would be sacrilegious. I mentioned it because it brought to light what was nagging me.

I wonder whether all of us have really absorbed and understood the true meaning

of the songs, cheers, dances and parades we had participated in. Are we merely treating them as part of a Mardi Gras? Are we only repeating "TV jingles" attaching little meaning to what we are doing? It is indeed difficult to measure because so much of the passion is choreographed and so much of it is contrived.

Talking about things being contrived reminds me

of a recent SMA referendum letter to GPs. It was mooted whether those who wish to designate themselves as "senior" general practitioners can do so. One need not satisfy any criteria, it is good enough so long that you think you are good enough, making it good enough for you to elevate your status and to charge a higher fee. How clever! I congratulate those who conceived the idea.

One simple decision and the GPs have succeeded in upgrading themselves overnight. Very soon Singapore

will achieve another first to add to our long string of championships. We will have the most "senior" GPs in the world. The productivity movement would be in ecstasy.

I am just giving other example that comes to mind to illustrate that appearance is skin deep and that what matters is in the marrow. It would be quite presumptuous and audacious for me to suggest that the PM would agree with me, but I'll take a chance.

Garfield

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The disease AIDS was first recognised in 1981, but retrospective serosurveys have revealed that the infection had already been prevalent in the human population for more than 20 years prior to this.

#### CLASSIFICATION

At present, two subtypes of HIV are known, HIV-1 and HIV-2. HIV-1, which was isolated in 1983, has been responsible for most of the infection worldwide, while HIV-2, first isolated in 1986, has mainly been identified in West Africa, Mozambique and, sporadically, in other countries. These viruses belong to the family of viruses known as the *Retroviridae*. Retroviruses are characterised by their possession of a unique enzyme called reverse transcriptase which is not found in animal cells and is rarely found in viruses outside this family. Within the *Retroviridae* the HIVs belong to the subfamily *Lentivirinae*, members of which infect many different animal species causing slowly progressive diseases with long incubation periods.

#### STRUCTURE

The human immunodeficiency viruses are spherical, enveloped viruses possessing dense, cylindrical cores. The core, which consists of protein, contains the RNA genome of the virus and the enzymes of the virus. The envelope consists of a double layer of lipid and is derived from the host cell cytoplasmic membrane. It is studded throughout with projections made up of glycoprotein, these projections being involved in the attachment of the virus to receptors present on susceptible cells. Because the envelope is made of lipid, detergents and fat solvents which damage the envelope will inactivate the virus.

The RNA genome of the virus contains regions which code for the structural proteins (*gag*), enzymes (*pol*) and envelope proteins (*env*) of the virus. In addition there are also at least four regulatory genes (*tat*, *rev*, *nef* and *vif*) which control virus replication in an intricate and complicated way.

Antibodies to the various proteins specified by these genes develop in the infected individual and can be identified on the Western Blot test. The envelope proteins of HIV-1 and 2 are

usually quite different, but the core protein, p24, of the two viruses is similar, so that if a person is infected with HIV-2 and his serum is tested against HIV-1 antigens in the Western Blot, a positive p24 band may be obtained.

#### REPLICATION

The disease AIDS is characterised by severe immunodeficiency, the hallmark of which is depletion of a special subset of lymphocytes known as T4<sup>+</sup> or CD4<sup>+</sup> lymphocytes. These lymphocytes possess special receptors on their surface called CD4 receptors to which HIV specifically attaches by its surface glycoprotein gp120 which is present on the exposed portion of the projections.

However, in addition to the T4 lymphocyte, the HIVs are also able to infect a wide range of other cells, such as monocytes, macrophages, glial cells of the brain, epithelial cells of the gut and many other cells. Some of these cells also possess CD4 receptors, although in smaller numbers than T4 lymphocytes, but some are CD4 receptor-negative. The HIVs infect these cells by some, as yet unknown, mechanism.

Following attachment, only the core of the virus enters the cell, after which, the RNA of the virus becomes copied into DNA by the enzyme reverse transcriptase. This DNA copy, known as the provirus, becomes integrated into the chromosome of the host cell, resulting in permanent infection of the cell.

In the case of T4 lymphocytes, activation of the lymphocyte appears to be necessary for substantial production of virus. Activation occurs when the infected person becomes antigenically stimulated in some way, as, for example, when infections with other microorganisms (bacteria, viruses, fungi, parasites) are contracted or when vaccines are given. Recurrent or chronic infection have been known to accelerate the progression

of disease in an asymptomatic carrier and for this reason carriers are advised to seek prompt treatment for associated infections, to avoid unnecessary vaccinations and to avoid sexual activity with multiple partners.

During replication, the proviral DNA is copied back into RNA, structural proteins and enzymes, synthesized and the whole packaged into virions at the cell surface. The virus then acquires an envelope from the cell membrane as it buds from the surface.

#### PATHOGENESIS

The severe immunological deficiency seen in AIDS results from damage and destruction of T4 lymphocytes and other cells of the immune system during the course of infection. This is in part directly due to the virus itself, but, in part also to the host's immune response to the infection. In the infected host, autoantibodies and cytotoxic T cells develop which attack and destroy both virus-infected and uninfected cells.

T4 lymphocytes play a central role in the body defense mechanisms, for when antigenically stimulated, they divide and produce substances, the lymphokines, which control the growth and maturation of other immunological cells such as monocytes, macrophages, antibody-producing B cells and other types of lymphocytes. The destruction of T4 lymphocytes will therefore result in widespread immunological impairment.

The end result of all this is that the patient becomes susceptible to infection by a variety of microorganisms (bacteria, viruses, fungi and parasites) and this is usually the cause of death. Certain cancers, such as Kaposi's sarcoma and lymphomas, may also develop, but the reasons for their occurrence are not clear at present.

Other systems are also involved in HIV infection. The viruses are able to infect macrophages, glial cells and endothelial cells in the brain, so that the central nervous system is frequently involved in AIDS and about 10%



Dr S Doraisingham

of patients present initially with neurological problems. Again, HIV can also infect epithelial and other cells of the gut and this may contribute to the chronic diarrhoea and malabsorption seen in some patients with AIDS.

#### TRANSMISSION

Epidemiological studies have established that HIV is transmitted in three main ways: by the parenteral inoculation of infected blood and blood products, by sexual contact, and by vertical transmission from the infected mother to her child. But the different routes are not equally efficient in transmitting infection.

In the infected person, the virus can be found in the blood and in probably all body fluids, but it is mainly cell-associated, very little virus being present in cell-free fluid. Although transfusion with contaminated

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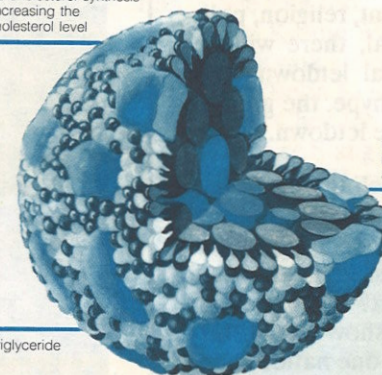
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## EPIDEMIOLOGY OF AIDS IN SINGAPORE

Paper presented at the SMA Medical Symposium  
on STD & AIDS in April 1990  
by Dr Chew Suok Kai



Dr Chew Suok Kai

The Human Immuno-deficiency Virus (HIV) is a human retrovirus discovered in 1983. It is now widely accepted that infection by HIV is the cause of the epidemic of the Acquired Immuno-deficiency Syndrome (AIDS) and related illnesses, first reported in the United States in 1981, and now evident in all parts of the world, including Singapore.

The first case of HIV infection in Singapore was detected in a homosexual man in May 1985. By 31 March 1990, 45 cases of HIV infection had been reported. There were 16 patients with AIDS, of whom 11 had died. The male-to-female case ratio for HIV infection was 21.5: 1, with the cases heavily concentrated in the most sexually active age groups, from 20 — 39 years. Patients who were single and never married accounted for 77.8% of the total. The majority of the patients were employed

in the service industry, mainly in the catering and lodging services, and as airline stewards.

Sexual transmission, both homosexual (46.7%) and bisexual (26.7%) as a mean of HIV infection accounted for 73.4% of all reported cases, while heterosexual transmission accounted for 22.2%. The majority of the infected detected prior to 1988 were mainly homosexuals/bisexuals. However, infection due to heterosexual transmission had increased noticeably since 1988. One patient had

acquired the infection following blood transfusion overseas.

The local pattern of opportunistic infections and cancers in patients with AIDS resembled that reported in western countries. In Singapore, half of the patients with AIDS presented with pneumocystis carinii pneumonia. Other infections included cryptococcal meningitis, disseminated mycobacterium tuberculosis, cytomegalovirus retinitis, and coccidial enteritis. Of the cancers, Kaposi's sarcoma and malignant lymphoma occurred more frequently.

Singapore has already begun to respond to the challenge of HIV infection since 1985. An AIDS program was established to control the spread of the disease in the republic, an important component of which was information dissemination and health education of risk groups as well as the community.

Singapore is now experiencing the first wave of HIV infection, representing exposure events which had occurred in the late 1970s this has been based on the median duration of AIDS-

free time of 7 to 8 years following seroconversion. Infection had occurred among persons who had travelled to areas where HIV infection was prevalent, or who had sexual contact with individuals from these areas, such as homosexuals and prostitutes.

The extent and direction of the second wave would depend primarily on the community response to health education programs since 1985. Two other factors may influence the HIV epidemic curve locally. Firstly, regional events such as the dramatic increase of HIV seroprevalence among intravenous drug users, prostitutes, and the heterosexual population in neighbouring countries in recent years; and secondly, the travel pattern and sexual behaviour of Singaporeans. In the author's study of the first 38 patients and reported elsewhere\*, it was observed that 97.4% of the patients had travelled extensively to areas where HIV infection was prevalent, and 73.0% of them had sexual exposures with homosexuals and prostitutes in the countries of destination.

Therefore, although the number of cases of HIV infection in Singapore is small at present, the community and each individual cannot remain complacent about the risks he or she is facing.

\*Chew SK. Human Immuno-deficiency Virus infection in Singapore. MSc (Public Health) Thesis. National University of Singapore. 1989-90.

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### PRE-CONGRESS WORKSHOP ON ECHOCARDIOGRAPHY

Date: 7 December 1990  
Venue: Raffles City Convention Centre  
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For further information, please contact

Miss Janie Chan  
Department of Cardiology  
Singapore General Hospital  
Tel: 3214026

(Details of the Post Congress Workshop was furnished the June 1990 issue of the SMA Newsletter)





Dr Roy Chan

## AIDS: CLINICAL PRESENTATION & DIAGNOSIS IN SINGAPORE

Paper presented at the SMA Medical Symposium  
on STD & AIDS in April 1990  
by Dr Roy Chan

The first Singaporean with HIV infection was detected in May 1985. The first case of AIDS was diagnosed in September 1986.

Up till March 31 1990, 45 Singaporeans have been found to be infected with the Human Immunodeficiency Virus.

Of these 45, 12 were detected by blood donation screening, 3 in 1986, 2 in 1987, 5 in 1988 and 2 in 1989. No positive samples have been found so far in 1990 in blood donors.

Another 12 persons presented to doctors with symptoms and signs of advanced HIV infection. Eleven had AIDS at presentation and one had ARC.

Six persons were diagnosed when they voluntarily sought testing. One of the 6 had oral thrush at the time of first consultation and therefore had ARC by definition. The other 5 had no signs of ARC or AIDS.

Five persons were detected when HIV serology was ordered at the doctor's request. Four were detected by contact tracing of infected persons. Three were detected during insurance health examinations, 2 from visa applications and 1 from SAF pre-enlistment medical screening. None of these individuals had evidence of ARC or AIDS.

At presentation, 26 of the 45 were, by the CDC classification, in Group II or asymptomatic stage of HIV infection. Six of the 45 had evidence of progressive generalised lymphadenopathy or Group III disease. Two of the 45 had evidence of ARC or Group IVa/IVc2 disease. The remaining 11 presented to us with full-blown AIDS or Group IVc1/IVd HIV disease.

As of March 31 1990, 23 are still in the Group II disease category. Five have

Group III disease, 1 had Group IVa/IVc2 disease and 16 have developed Group IVc1/IVd disease, that is another 5 have progressed on to AIDS. Eleven of the 16 AIDS cases are deceased.

In analysing records of 15 of our 16 AIDS cases, the presenting complaints of 8 of them were in the respiratory system. Three had generalised systemic complaints and 2 had complaints referable to the gastrointestinal tract. One person had Kaposi's sarcoma of the skin as the initial AIDS-defining illness and another had signs and symptoms of central nervous system disease.

The clinical course of AIDS however does not remain as simple. Almost all our patients had multi-system complaints. AIDS-associated opportunistic diseases are characterised by being multiple, occurring concurrently and/or consecutively. They are incurable and require maintenance therapy or secondary prophylaxis.

Pneumocystis carinii pneumonia was diagnosed in seven patients. Two were diagnosed overseas and 5 in Singapore. Of these 5, 4 were diagnosed on presumptive grounds i.e. chest X-ray findings of bilateral lung infiltrates and a response to anti-pneumocystis medication. The fifth had a definite diagnosis made after a bronchoscopic examination was performed for pneumonia which did not respond to anti-bacterial drugs. HIV infection was not suspected in this patient at that time, a sharp-eyed technician made the diagnosis on BAL specimens.

Mucocutaneous herpes simplex ulceration lasting over one month was seen in 3 of our patients. Cryptococcosis, systemic candidiasis, Kaposi's sarcoma, malignant lymphoma, CMV retinitis and salmonellosis were found in 2 patients each. Disseminated TB, Cryptosporidiosis, Isosporiasis and

the HIV wasting syndrome were diagnosed in one patient each. In all there were a total of 26 AIDS-defining illnesses in 15 AIDS patients, or about 1.7 per patient.

In addition to illnesses as defined by the CDC Surveillance criteria, HIV infection is also associated with other serious infections. Seven patients had chronic diarrhoea of undetermined causes. Four had bacterial pneumonia, and 2 had pneumonia of undetermined causes. Two patients had peripheral neuropathy, one had giardiasis and another had pulmonary TB.

Patients with advanced HIV infection i.e. ARC and AIDS also exhibit a large number of dermatological signs. Most often seen are oral thrush and seborrhoeic dermatitis. HIV infection should always be suspected in a person with oral thrush who has no predisposing factors e.g. oral antibiotics, immunosuppressive therapy and other diseases associated with immunosuppression. Seborrhoeic dermatitis which is extensive and difficult to control is another useful clinical pointer. Other conditions noted were a history of herpes zoster, xerosis (dry skin), drug rashes and perianal fistulae, sinuses and abscesses.

In order to make a diagnosis of HIV infection, the most important point is that it must be considered. This begins with accurate and detailed history of exposure risks. Physical evidence of impaired cellular immunity is further evidence in a patient with recognised risk factors. The availability of accurate serological tests for HIV confirms the presence of HIV infection.

A positive HIV antibody test requires that a sample which is repeatedly positive by a screening test (eg. ELISA, agglutination methods) is confirmed by a confirmatory test (eg. Western Blot Test). False positive screening tests may be the results of laboratory error, the presence of autoanti-

bodies to cellular antigens or the immunoglobulins.

The criteria for positive Western Blot tests vary slightly from centre to centre. However, all rely on positive reactions to envelope proteins and to core proteins. When no bands are present the results are negative. Where some but not all of the diagnostic bands are present the result is "indeterminate". Indeterminate immunoblot results in high-risk patients often are confirmed as positive on repeat testing. Those in low-risk patients have been shown to remain indeterminate and not to signify HIV infection. The widespread use of HIV testing in low-prevalence populations yield far large numbers of false positive and indeterminate samples than true positives. This results in problems with the clinical management of such persons and psychological stresses inflicted on them.

In the follow-up of infected persons, the documentation of immune deficiency is an accurate predictor of clinical progression of the disease. This requires the elucidation of physical signs of immune deficiency and regular monitoring of CD4 lymphocyte counts. Recent evidence from large studies have shown that timely intervention by way of AZT therapy when CD4 counts drop below 500 cells/cu mm will prolong significantly the period of asymptomatic HIV disease. The institution of prophylactic medication for PCP when CD4 counts drop below 200 cells/cu mm has also proved beneficial.

The diagnosis of opportunistic diseases in infected persons is difficult for a number of reasons viz. subtle and unusual presentations, occurrence in previously healthy individuals, difficulty in recognising new processes in a chronically debilitated patient, poor physician education and attitudes, poor patient education, fatalism on the part of both patient and health care providers and

high-cost of investigation on the patient.

The definitive diagnosis of disease processes is important for many reasons. It is needed in order to provide correct and effective treatment; to avoid mistakes in the labelling of persons as having AIDS which has severe psychological repercussions; to minimise the side-effect of empiric therapy; to accurately document the spectrum of opportunistic disease in the local community; and to avoid the unnecessary financial burden on the patient (and family) for treatments based on guesswork.

The optimal management of HIV infection is best achieved by a multi-disciplinary approach. This requires specialists from a variety of fields including infectious disease, immunology, oncology, hematology, internal medicine, dermatology, sexually-transmitted diseases, the surgical disciplines, pathology and experienced and reliable laboratory services. This has yet to be achieved in Singapore.

The first bronchoscopy was performed only in late 1989, four years after the first case of AIDS was diagnosed. Blood samples sent for hematological tests have been reported by laboratories to be misplaced, spilt or spoilt. A request for a lymph node biopsy on rapidly enlarging cervical lymph nodes in one patient was only performed 7 months after the first request was made.

In Singapore persons with HIV infection who require hospitalisation for whatever reason are allowed to be warded but only in B1 or A class beds in one particular ward in one particular hospital. All subsequent costs for outpatient care is adjusted to B1 or A class rates.

HIV infection and AIDS must be viewed as a chronic condition, and persons with AIDS undergo periods of ill-health during which they require often prolonged and repeated in-patient care and recuperation. We have many patients who have exhausted not only their own Medisave accounts but also those of their parents and siblings in order to pay their hospitalisation bills. Pa-



## THE HUMAN IMMUNODEFICIENCY VIRUSES

Cont'd from Page 4

blood is a highly efficient way of transmitting HIV infection, resulting in infection in 70% — 100% of cases, the amount of virus present in blood is considerably less than that of hepatitis B virus in hepatitis B carriers. Several prospective studies have shown that the risk to health care workers of contracting HIV infection following accidental percutaneous or mucous membrane exposure to infected body fluids is in the region of 0.4%, whereas that for hepatitis B is in the order of 20-30%. It is, therefore, far easier to contract hepatitis B after needle-stick injuries than to contract HIV. Nevertheless, the risk does exist, and a vaccine is not available yet; so measures to minimize the risk must be taken. Where the frequency of inoculations is high, as with IV drug users, transmission rates increase dramatically.

In sexual transmission, infection can be spread by both anal and vaginal intercourse, the receptive partner being at greater risk in both instances. In anal intercourse, the virus can either directly infect bowel epithelium or infect underlying susceptible cells through breaks in the mucosa. In genital secretions, HIV-infected cells appear to be the most important source of transmission as relatively low titres of virus are present in cell-free fluid. This is probably the reason why HIV has been found to be transmitted more easily in the presence of other STDs, especially those which are associated with genital ulcerations, like syphilis and chancroid. The increased number of HIV-infected inflammatory cells and the presence of genital ulcerations would facilitate transmission.

Concentrations of virus in saliva are very low, supporting the epidemiological evidence that it is an unlikely source of spread.

Vertical transmission from mother to infant occurs in approximately 30-50% of children born to HIV positive mothers. Infection can occur during pregnancy, during labour or in the post natal period. Although concentrations of the virus in breast milk are very low, studies suggest that infection can be trans-

mitted by breast feeding. Diagnosis of infection in the infant is difficult, however, because passively transmitted maternal antibody is present, because reliable tests for IgM antibody are not available, and because the infant itself may fail to seroconvert after maternal antibody is lost.

## INACTIVATION

The HIVs are relatively fragile viruses, being readily inactivated by the usual means of sterilization and disinfection, and are far more susceptible to inactivation than hepatitis B virus. Therefore, procedures designed to inactivate hepatitis B virus will, more than efficiently, destroy HIV as well. It must be remembered, however, that HIV can survive for prolonged periods at room temperature, for as long as 2 weeks in serum or tissue culture fluid. Therefore, objects and surfaces in contact with infectious material must be decontaminated.

In considering methods used to inactivate HIV, factors which may prolong virus survival must be taken into account. For example, dry serum deposits of virus may be more resistant to inactivation by certain chemicals, such as 70% ethanol, than wet suspensions, because water is essential for the activity of alcohols. Repeated immersion of instruments into a 2% solution of glutaraldehyde may dilute it down to 1%, when it becomes ineffective.

## GENETIC VARIATION

One of the many disturbing features of infection by the human immunodeficiency viruses is that both HIV-1 and HIV-2 are subject to frequent genetic changes which result in the appearance of new strains with antigenic and biological differences.

Where patients have been followed up with virus isolation, it has been found that the viruses isolated soon after infection is contracted are different from strains isolated later when the disease has progressed to a more advanced stage, the later strains showing the characteristics of more pathogenic viruses. Again, viruses isolated from different sites may also show antigenic and biological differences, blood isolates for example, being different from brain isolates. Pre-

existing neutralizing antibody may then be ineffective against the new strains. This is one of the reasons why development of a vaccine against the infection has been so difficult.

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## CLINICAL PRESENTATION & DIAGNOSIS

Cont'd from Page 6

tients and their families have so far paid up without much protest, often at great financial sacrifice and hardship. They have done so to "save-face" and to prevent drawing any attention to themselves.

AIDS discrimination does exist in Singapore and it would seem that it is nowhere more manifest than in

the medical service and the medical community.

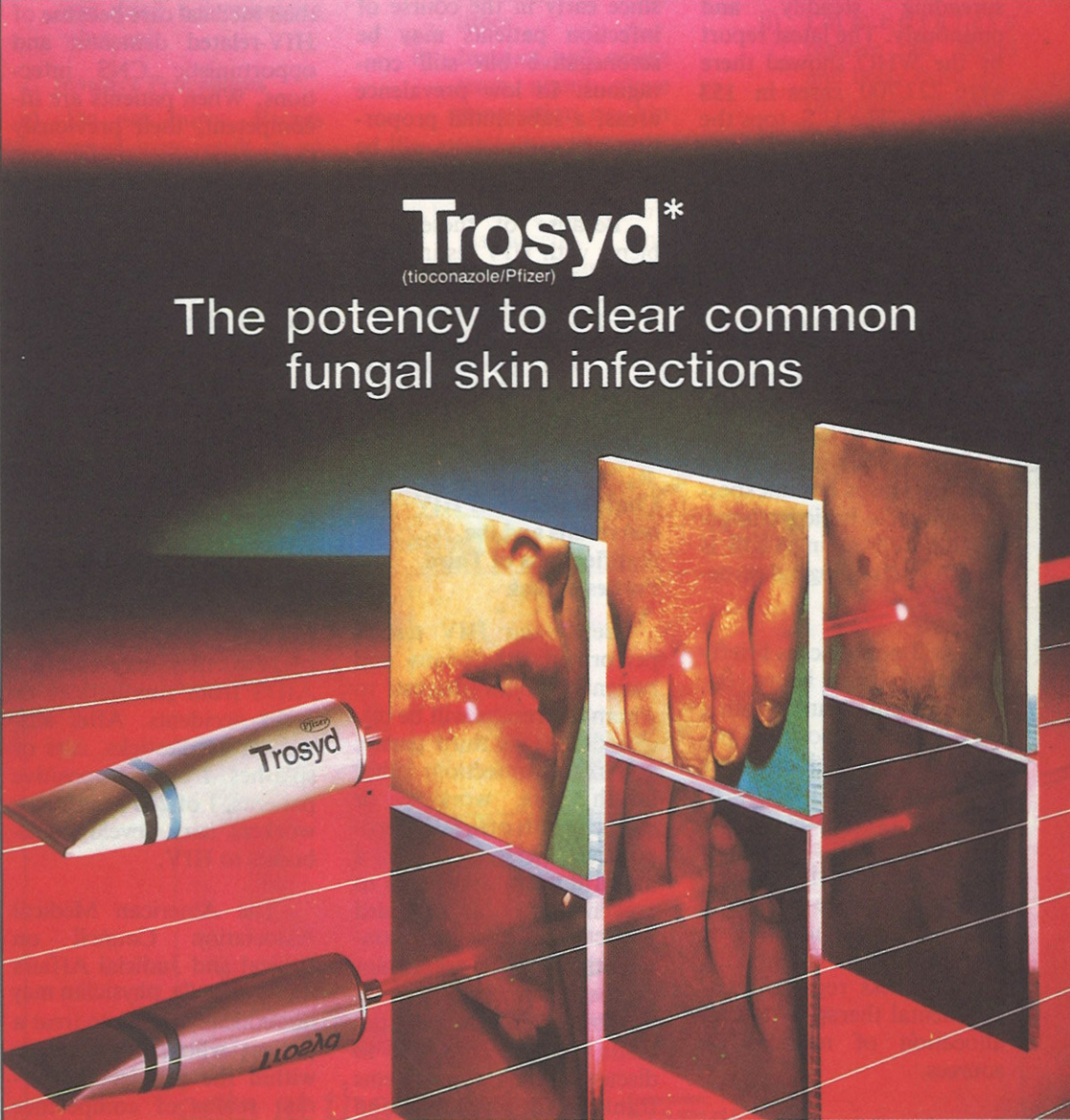
We hope, and I think I can speak for those of us who have been looking after HIV patients, that this symposium will mark a turning point in our attitudes and in the care of persons with HIV infection in Singapore.

Thank you ladies and gentlemen. ■

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## AIDS - THE PHYSICIAN'S STRATEGY

Paper presented at the SMA Medical Symposium  
on STD & AIDS in April 1990  
by Prof Feng Pao Hsui



Prof Feng Pao Hsui

In the Spring of 1981, it first came to medical attention that a few young American men in New York and California — formerly in full health — were becoming sick and dying rather quickly in unprecedented ways. With remarkable speed, the details of their illnesses were collected, compared, analysed and a new syndrome was born. It took a little while longer to agree on the name — the Acquired Immune Deficiency Syndrome or AIDS — but from the beginning some dominant features were clear about the new illness. It was relentless, it was deadly, it involved young men almost (but not quite) exclusively and it was spreading steadily and ominously. The latest report by the WHO showed there were 222,700 cases in 153 countries. The U.S. tops the list with 121,645, the continent of Africa 41,518 and Europe 31,581 (ST 4.3.1990).

### Clinical Aspects

The epidemiology, pathogenesis, clinical features and management of AIDS have been well-documented. Suffice it to say, AIDS is truly a multisystem disease. This is not unexpected since the basic pathogenic mechanism in AIDS is one of immunologic destruction.

I will now discuss briefly six major clinical issues confronting physicians treating HIV antibody-positive patients namely (1) indications for screening, (2) confidentiality of HIV test results and the notifications of third parties at risk, (3) indications for life-sustaining treatment, (4) refusal of care for sero-positive patients, (5) dilemmas regarding experimental therapies and (6) allocation of medical resources.

### Screening of Asymptomatic Individuals

The goals of screening asymptomatic individuals are to allow seropositive persons to make informed decisions about sexual practice, child-bearing, careers and medical care and to decrease the spread of infection. Cur-

rently in the U.S., mandatory screening is required for blood, organ and sperm donors. For military personnel, for foreign service employees, for immigrants, for inmates in federal prisons and in some states, for applicants for marriage licenses. However more extensive mandatory testing has been rejected because it may drive persons at high risk for HIV infection away from the health care system.

Some physicians and surgeons advocate HIV antibody testing for all hospitalized or surgical patients. Screening as a guide to infection control presents difficulties. Negative tests may give a false sense of security since early in the course of infection patients may be seronegative but still contagious. In low prevalence areas, a substantial proportion of positive tests will be falsely positive.

Because of these problems with HIV testing, the Center for Disease Control (CDC) recommended universal body fluid precautions with gloves, masks, gowns or goggles and all patients should be treated as potentially positive.

### Confidentiality of HIV test results and the Notifications of Third Parties at Risk

Before an HIV test is performed, physicians and patients should discuss to whom the results will be disclosed such as third parties at risk for infection, other health care workers or public health officials. Sero-positive persons have a moral duty to take steps to prevent infection of third parties. Preserving confidentiality is very important in the doctor-patient relationship. It encourages patients to seek care and to discuss their problems frankly with physicians and protects patients from adverse consequences. When confidentiality is breached HIV-infected patients may encounter stigma and discrimination. Sero-positive patients have lost jobs, housing, school privileges, health insurance and access to health care.

However, while individuals have a right to jeopardize their own health, they have no right to place others at risk. Thus the duty of the physicians to prevent harm, may override the duty to protect confidentiality.

### Decisions about Life-sustaining Treatment

Guidelines regarding life-sustaining treatment in other disease should also apply to patients with AIDS. Patients need to be informed about the risks and benefits of life-sustaining treatment. Effective communication is essential between care-givers and patients. Patients with HIV infection may not be capable of making decisions about their medical care because of HIV-related dementia and opportunistic CNS infections. When patients are incompetent, their previously expressed preferences should guide decisions. However if the incompetent patient's wishes are unclear or unknown, decisions should be based on what is best for the patient. Finally physicians are not obligated to provide futile care even if the patient or family requests it.

### Refusal to care for Sero-positive Patients

Even if health care workers follow the recommendations when caring for patients who are HIV positive, they may contract AIDS from needlesticks or other accidents. After sustaining needlesticks, cuts or splashes from seropositive patients, 1 of 200 health care workers may develop antibodies to HIV.

The American Medical Association Council on Ethical and Judicial Affairs states that "a physician may not ethically refuse to treat a patient whose condition is within the physician's current realm of competence solely because the patient is seropositive. If a physician is not able to provide the services required by persons with AIDS, he or she should make the appropriate referral to those physicians or facilities that are equipped to provide such services". The American College of

Physicians and the Society for Infectious Disease clearly state that there is an obligation to treat HIV-infected patients. Despite these declarations by professional organisations, some physicians claim that the risk to health care workers overrides an obligation to care for sero-positive patients.

### Dilemmas in Research

The safety and efficacy of experimental therapies for AIDS can be rigorously evaluated only in double-blind, controlled trials. But it may be difficult to recruit patients with HIV infection for placebo-controlled trials since they might be willing to receive only active treatment not a placebo.

Because AIDS is a fatal illness, there is pressure to release new therapies as soon as possible. While making new drugs more available could benefit patients, it also could harm them. Such policy may also waste scarce resources on toxic or ineffective therapies. Finally unproved therapies may cause a conflict between patient autonomy and the physicians' duty to do no harm.

### Allocation of Health Care Resources

By 1991, it is estimated that there will be 250,000 cases of AIDS in the United States. The financial burden of caring for these patients will fall disproportionately on urban areas with large populations of gay men and IV drug users. By 1991, 12.4% of acute-care beds in San Francisco and 8.7% in New York will be needed for

persons with AIDS. Similarly such persons will require 16.2% of inpatient hospital costs in San Francisco in 1991 and 8.4% in New York. The total cost of caring for an AIDS patient is similar to costs of other serious illness, such as cancer or heart disease.

Owing to their lack of medical insurance and financial resources, many patients with AIDS receive care in public hospitals that are already financially stressed. Hence limited resources may force changes in the delivery of care to patients with AIDS such as restricting access to ICUs. In allocating finite resources to AIDS, society must balance competing needs such as for inpatient care, treatment like azidothymidine which prolong life but is costly, long-term care, home care, hospice care and education to prevent HIV infection in high-risk groups.

### CONCLUSION

Physicians caring for HIV-infected patients confront a variety of ethical and moral dilemmas. In grappling with these dilemmas, physicians and society must respect patients' autonomy and confidentiality, benefit patients and third parties at risk and must allocate resources fairly. In addition, the AIDS epidemic challenges individual physicians and society as a whole to act humanely and compassionately in the patients' best interests. ■

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Dr Tay Boon Keng

## AIDS - THE SURGEON'S STRATEGY

Paper presented at the SMA Medical Symposium  
on STD & AIDS in April 1990  
by Dr Tay Boon Keng

### INTRODUCTION

AIDS (Acquired Immune Deficiency Syndrome) was first discovered in 1981. It is an incurable disease of epidemic proportions and till today, no known vaccine has been developed and proven to prevent it. AIDS is caused by a human RNA retrovirus now known as HIV.

The virus is transmitted through sexual, parenteral and maternal-infant routes. HIV has been isolated from blood, semen, vaginal secretions, bone, breast milk and saliva. Any body fluid that contains blood even in microscopic proportions is a potential source of HIV infection.

Presently, known routes of transmission include homosexual practice, IV drug abuses, IV transmission and occupational exposure (via percutaneous, mucous membrane, cutaneous). The concerns of the surgeon include the following:

1. AIDS will influence the mode of treatment.
2. Most patients infected with HIV will develop AIDS.
3. HIV has been recovered from body tissues including bones.
4. HIV can be transmitted by inoculation.
5. HIV infection is virtually 100% fatal.

### THE PATIENT'S POSITION

The surgeon accepts the moral and ethical responsibility to provide care to all patients with compassion and dignity irrespective of their HIV status. Again, regardless of their HIV status, all patients should have access to quality surgical care.

Risk to patients can be reduced by using autologous blood and cell savers. Proper procurement methods

and adequate testing of materials and donors are essential in tissue banks if risk from allograft transmission is to be negligible.

In elective surgery, treatment considerations should be a careful balance between well being of all patients (including HIV positive patients) and protection of public health including the surgeons and their staff. For example, in fractures of the spine, sub-laminar wiring exposes the surgeon to cuts and perforations from sharp wires. The same condition could be treated with a different solid implant like the Harrington's rod.

### RISK TO THE SURGEON

In the USA, the incidence of AIDS patients in teaching hospital is 30% and in trauma victims is 16%. This incidence is not known in Singapore. However, in our Department we have operated on an HIV positive patients for an ankle fracture in 1986.

HIV can be transmitted through inoculation. The surgeon, because he is exposed to sharp instruments, sharp bone fragments and trauma patients are more at risk than other health care persons.

In a study done (306 respondents), each surgeon has an average of being stuck by a needle or sharp object 40 times a year. In yet another study amongst surgery lasting more than one hour, 40% of the gloves were perforated.

Furthermore, the risk of blood splatter contamination to eyes and skin which has a prevalence rate of 120 instances per year to each surgeon, exposes the surgeon to potentially great damage.

### STRATEGIES AGAINST TRANSMISSION OF HIV

#### 1. Universal Precautions

- a) Wear gloves when changing dressing and inspecting wounds.
- b) All contaminated dressings and other material

should be placed in disposable bags and sealed.

- c) Exposed ends of all orthopaedic pins should be protected with appropriate plastic caps. Re-capping of hypodermic needles should be avoided. They should be discarded in a safety container.
  - d) Gloves should be worn when touching any linen which may be contaminated with blood or other body fluids.
  - e) Protective goggles, masks, gowns and shoe-wear should be worn when minor procedures are done e.g removing pins, etc.
- #### 2. Invasive Procedures
- a) Do not hurry. Excess speed may result in an injury.
  - b) Wear surgical garment that offers protection against contact with blood:
    - i) Knee-high water-proof surgical shoes

- ii) Water-impervious gowns.

- iii) Double gloves at all times. In HIV positive patients, triple gloves. Cloth gloves in trauma and major reconstructive cases.

- iv) Change surgical mask if splattered or moist.

- v) Head covers that maximise cover.

- vi) Protective full face shields.

#### c) Avoid inadvertent penetration of skin:

- i) Be aware and cautious at all times.

- ii) Instruct and orient team about glove penetration or skin contamination.

- iii) Use instrument ties.

- iv) Do not pass sharp instruments and needles from hand to hand but on an intermediate tray.

- v) Announce when instruments are being passed.

- vi) Avoid suturing simultaneously on the same wound.

- vii) Take extra care when performing digital examination of sharp fracture fragments or when working with sharp instruments.

- viii) Periodic checks (eg. hourly) to see whether body fluids have contaminated gown or shoe protectors. Clean skin immediately.

- ix) Cover exposed wires and pins.

- d) Clean gowning and gloving of all operative personnel.

- e) At completion of case:

- i) Do not remove surgical garment until wound has been dressed and risk of contact with bloody drapes eliminated.

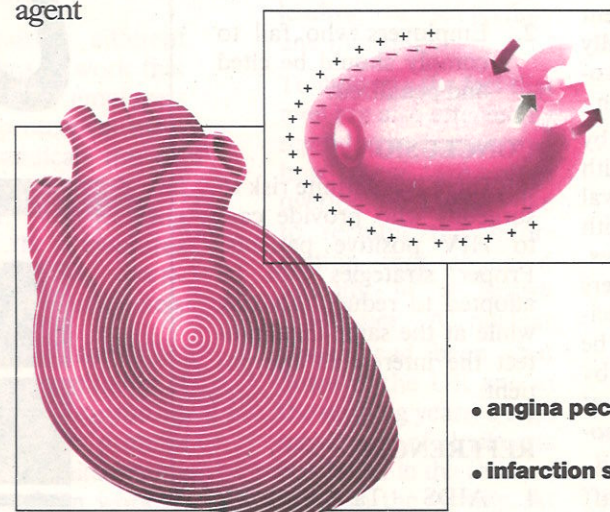
- ii) Immediately remove all blood and body fluid contaminated clothing.

- iii) Take boots off before gloves. Leave gloves on till all contaminated garments are removed.

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# THE SURGEON'S STRATEGY

Cont'd from Page 9

- iv) Wash hands, fore-arms and faces with antiseptic soap.
- v) Do not touch anything including storage facilities and phones with bloody gloves.
- f) When an incident occurs:
  - i) If blood or body fluids contaminate intact skin, immediately wash with soap and water solution.
  - ii) If skin is cut or penetrated, remove gloves, bleed wound and pour 70% alcohol directly on wound and clean with soap and water.
  - iii) Report incident to appropriate person.
  - iv) Test patient and health care worker and retest health worker at 3 months, 6 months and 1 year.
  - v) If health worker is contaminated by needlestick or penetration with the blood of a known HIV positive patient, a short course of AZT (zidovudine) should be started within one hour (for 2 to 6 weeks).

## ROUTINE VOLUNTARY HIV TESTING

1. Knowledge of HIV status is helpful in planning surgical treatment — a different, equally effective but safer procedure could be chosen.
2. Patients will benefit by knowing their health status. Their survival may be prolonged with adequate measures. Their sexual partners can be protected. Decisions on surgery may be positively influenced by the fact that they are at increased risk to nosocomial infection.
3. Surgeons and their staff are additionally protected when they are aware of patients' HIV status as they will be readily reminded of additional precautions.
4. The surgeon should ensure provision of appropriate pre-test and post-test counselling. He should notify the patient of the result

regardless of the outcome.

5. The patients' HIV status must be treated as confidential.
6. If an individual declines to be tested for HIV antibodies, then this individual should be cared for as though he or she is HIV positive.
7. All health care workers and surgeons should consider being tested for HIV on a periodic basis. It is for the personal health and psychological well being of the workers as well as for protection of the patient.
8. Routine testing will encourage surgeons to become more aware and embrace suggested safety procedures. Nothing else has as strong an influence on modifying behaviour as routine HIV testing.

## COMPLIANCE AND PENALTIES

1. Appropriate health authorities should ensure compliance in terms of:
  - a) Regular instruction of health care workers regarding the epidemiology, prevalence and methods of transmission of HIV.
  - b) Ensuring that hospital and employers provide adequate quantities of necessary barriers and implement precautionary measures.
2. Employers who fail to comply should be cited and penalized.

## CONCLUSION

There is a definite risk to surgeons who provide care to HIV positive patients. Proper strategies can be adopted to reduce this risk while at the same time protect the interest of the patient.

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## JOURNAL ROUNDUP

Cont'd from Page 2

Physicians must rely on nurses for proper care of their patients. Nurses should be effectively used at their highest level of competence. "Only a restructuring will assure that patients will receive the quality of care that they desire and need."

Ann Int Med 1990, 1 March pg 319-20.

### Nurses: the point of no return

Abandon the model of unbroken full time service, or there will be no more nurses. The pool of 18 year olds is shrinking fast and of those recruited into nursing 25% of nursing students and 10% of qualified nurses leave the NHS annually. Society's need for skilled workers is creating alternative careers for potential recruits and nursing veterans. What should managers do? Keep the qualified nurses and tempt back the thousands who have left. 90% of nurses are women and many have children, so help is needed to enable working women to manage the double shift of home and job. The principle

3. Bartlett JG: Testing for HIV Infection: Recommendations for Surgeons. Bull Am Coll Surg 1988; 73: 4. ■

applies to all working women, doctors and other professions. Schemes to keep in touch with and return to practice, flexible working patterns and part-time posts with career development are essential. Creches have to open, flexitime made available in adequate numbers and quality and not too little, too late.

The aim is an environment created to "enable nurses with children or elderly or disabled dependants to work flexible hours with no loss of job satisfaction or professional development." Most nurses have yet to rethink their own attitudes to grasp the full implications of flexibility. Fixed ward rounds, ritual morning reports - can't these be dispensed with? The cost of failure will be huge - would you be nursed by an expert nurse or an untrained support worker?

BMJ vol 300 9 June 1990: 1478.

### Hepatitis E Virus

The alphabet of viral hepatitis is now A to E. Viral Hepatitis A, B and D are already well-known. A and D are single stranded RNA viruses, while B is a double-stranded DNA virus. Type C was recently described as a single stranded RNA virus. Type B and C viruses can give

chronic sequelae i.e. chronic active hepatitis, cirrhosis, and primary liver cancer. In 1990 hepatitis E virus has been identified. The virus, successfully cloned, causes what was previously delineated as the enterically transmitted non-A, non-B hepatitis which was known to occur in both epidemic and endemic forms acquired through intake of sewage contaminated water and person to person contact. It affects mainly young and middle-aged adults with a very high mortality (20-39%) in infected pregnant women. It occurs worldwide with large epidemics reported in India, The Soviet Union and outbreaks in South East Asia, Burma and Nepal.

Epidemiological features of the infection resemble those of virus A to which it is not related so that immunity to Hepatitis A is no protection to virus C. The physicochemical properties of Hepatitis C virus are known and so is its molecular genomic structure. This molecular biological tool has allowed confirmation of the existence of this virus in non-A non-B hepatitis cases in Somalia, Borneo, Pakistan and the Soviet Union.

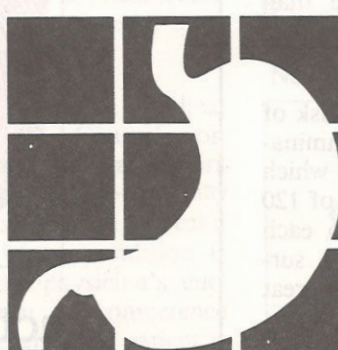
The next steps are the development of specific diagnostic tests and vaccines.

BMJ vol 300 9 June 1990: 1475-6

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## WOMEN AT WORK

Cont'd from Page 1

limited to carrying 20 to 25 kilos. It has been argued that this limitation does not take into account the abilities, capacities and preferences of individual women and is therefore discriminatory. Instead individuals irrespective of their gender should have the opportunity to display their ability to do a particular job. There should be no discrimination on the basis of sex. In addition many jobs could be redesigned or mechanical assistance provided to allow for greater ease in their performance. When humans carry heavy loads backache does not discriminate between the sexes. In Singapore there is no restrictive legislation for women regarding the manual transport of loads. One only has to see the samsui women carrying heavy loads the whole day to realise that some women are just as capable as some men in this task.

Some countries have adopted legislation that prevents women from being employed in work which would expose them to dangerous substances or agents. The reason for this is that the toxic substances may cause damage to the foetus. While there is little argument that the foetus has to be protected, one must be careful in the definition of "foetal harm". Foetal harm can occur when either the male or female reproductive system is exposed to the hazard and therefore excluding women from the jobs does not eliminate foetal harm. Women and trade unions in the USA, Canada and UK have argued for removing the hazards rather than removing the women from the workplace.

Special protective measures for women workers have come under increasing scrutiny to determine whether they respond to a genuine need or are discriminatory. The increased scrutiny is necessary for 2 main reasons:-

- a) In the light of scientific and technological advances, the protective measures may have to be revised, extended or repealed according to the national circumstances.
- b) Many governments are assessing the legal status of the protective measures to prohibit sex discrimination and to

promote equality of opportunity and treatment. Canada has virtually eliminated protective measures for this reason. In an extensive review, Australia has found that many of the protective measures are actually illegal discrimination and is therefore modifying her laws.

Iceland, Italy, New Zealand and the United Kingdom have also modified their laws for the same reasons. Restrictive measures lead to industrial and occupational segregation - this only makes the job harder for the SDU.

One author, R Nielsen, commented on the situation in the Nordic countries as follows:-

"The prevailing view in the Nordic countries is that neither men nor women should be protected on the grounds of sex, except for strictly biological reasons. The persistence of traditional sex-role stereotypes is not regarded as justification for giving women special protection."

There is a trend especially in a number of market-economy industrialized countries, towards limiting or repealing protective measures for women workers. This has also happened in Singapore. In the Scandinavian countries, laws on working conditions no longer distinguish between men and women.

I am now going to present opposing views concerning protective measures for women workers.

### Defenders and Challengers of Protective Measures

1. Protective measures are defended on the basis of the need to protect women's reproductive and maternal functions.

Protective measures are challenged based on the belief that they inhibit equality of opportunity and treatment for women in employment.

2. The historical basis of the protective measures has already been outlined. A number of governments and workers' organisations support these measures because they feel that although social customs are changing, women still exercise the major responsibility for the family and home and therefore should continue to be protected in the workplace.

In developing countries this argument is carried further where economic and social conditions make the situation for women especially difficult, e.g. problems relating to transport, housing and personal safety and therefore make certain types of work, such as night work, unsuitable and even hazardous for women.

The challengers however maintain that many protective measures have become anomalous or inadequate and having lost their original justification lead to negative effects on women. Influences other than concern for women's health, safety and welfare were also at work when the protective measures were enacted. Some assert that a strong motive was to protect male jobs from female competition. This has been documented in several countries. In 1935 a book was published in Australia and its title was "Are the Women taking Men's Jobs?"

The distinction between protection and discrimination is often a fine one. For example, after World War II, some States in the USA passed legislation limiting the number of pounds a woman could lift, or the number of hours she could work. While these laws were supposed to protect women from undue stress, the result was that women lost their jobs to the returning servicemen.

By requiring different conditions of work that could cost employers more, protective measures handicap the recruitment of women and instead of helping women, these measures actually cause discrimination against women.

3. Currently in the USA, an increasing number of companies is instituting policies which prohibit women of childbearing potential from working in areas where they might be exposed to agents or chemicals that are harmful to the foetus - the reason given is the need to protect the unborn child. As a result of this many women have lost jobs which they have recently gained access to. It is no coincidence that such policies do not exist

in companies or institutions that employ a largely female labour force e.g. hospitals or the electronics industry. When studies found that anaesthetic gases cause spontaneous abortions, hospitals did not ban women workers from the operating rooms. Instead they installed devices that eliminated the problem.

4. Women are barred from certain jobs because of reproductive health hazards. Because women get pregnant and bear children, male co-workers tend to think that reproductive health hazards are just a woman's problem.

This view ignores some important facts:-

- a) many exposures which may be harmful to a foetus may also be harmful to an adult.
- b) exclusionary policies ignore the fact that women are not pregnant most of their lives.
- c) men are also affected by reproductive hazards.
- d) reproductive health means more than having healthy babies. All through life, men and women need healthy sexual and reproductive systems. Toxic substances besides causing effects on the female reproductive system can also disrupt the production of male hormones in the testes leading to loss of sexual drive and impotence. Problems in sperm production can also arise leading to subfertility and infertility.

To illustrate the fact that men are also affected by reproductive hazards and how these are often overlooked, I would like to recount this information that appeared recently in a British newspaper. A nuclear plant had been shut down in the UK and in the ensuing years, a high incidence of leukemia was found in the children living in the vicinity. At first this was attributed to the increased radioactivity of the environment. Further research however, showed that the increased of leukemia only affected the children of the men who had worked in the plant and not the other children who were also living in the same area but whose

fathers had not worked in the nuclear plant. Obviously in this case, the sperm of the male workers had been affected in such a way that it caused leukemia in their offspring. There were no female workers of reproductive potential in this plant.

Therefore reproductive hazards should not be used as an excuse to penalise women workers and permit management to avoid cleaning up the workplace. Barring women from jobs instead of cleaning up the workplace, diverts attention and energy from the real issue - the need to protect all workers (men and women) from reproductive and other health hazards. Women's presence on the job may in fact raise awareness about the hazards of reproduction and health.

5. Some trade union organisations e.g. Federal Republic of Germany, believe that protective measures for women should not be repealed but should be maintained and instead be extended to male workers. Similar arguments are made by trade unionists in France and the UK with regard to the relaxation of rules on prohibition of night work for women and protection for both male and female workers. Opponents of protective measures maintain that conditions of work for men and women are considerably better now than when such measures are adopted. Because there is a basic safety net of legal protective measures for all workers, special measures are not needed for women workers.

Protective measures are actually prejudicial to women's employment and promotion prospects.

In conclusion what I would like to see is equality between male and female workers and protection for both male and female workers.

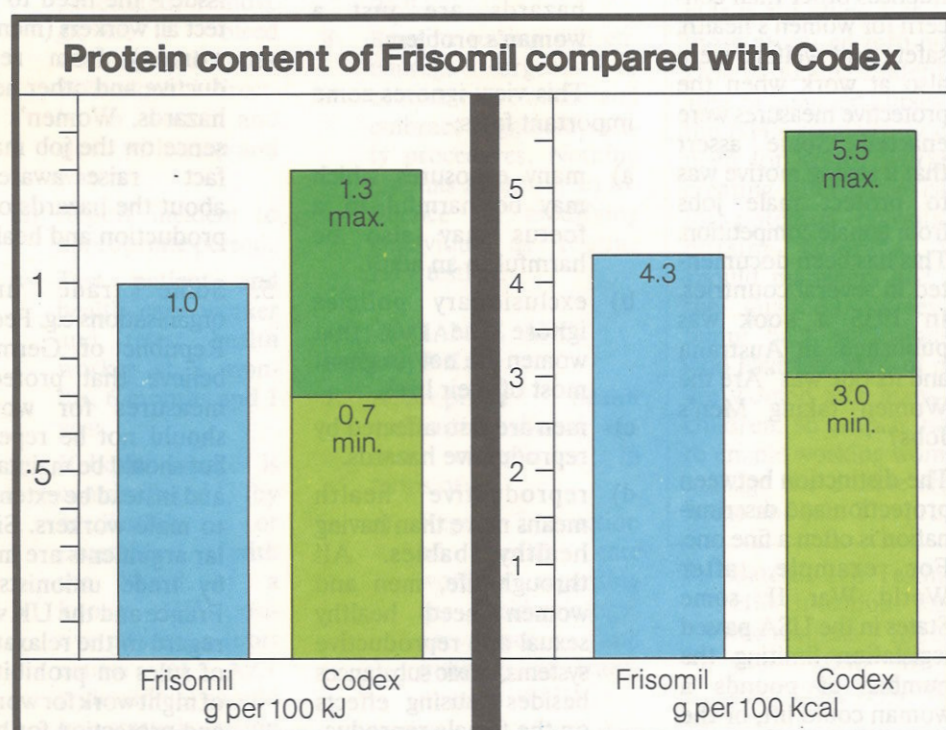
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