HIV exposure and infection in health care workers

Kenny Chan
Integrated Treatment Centre
CHP, DH

Postexpsoure Management

General measures

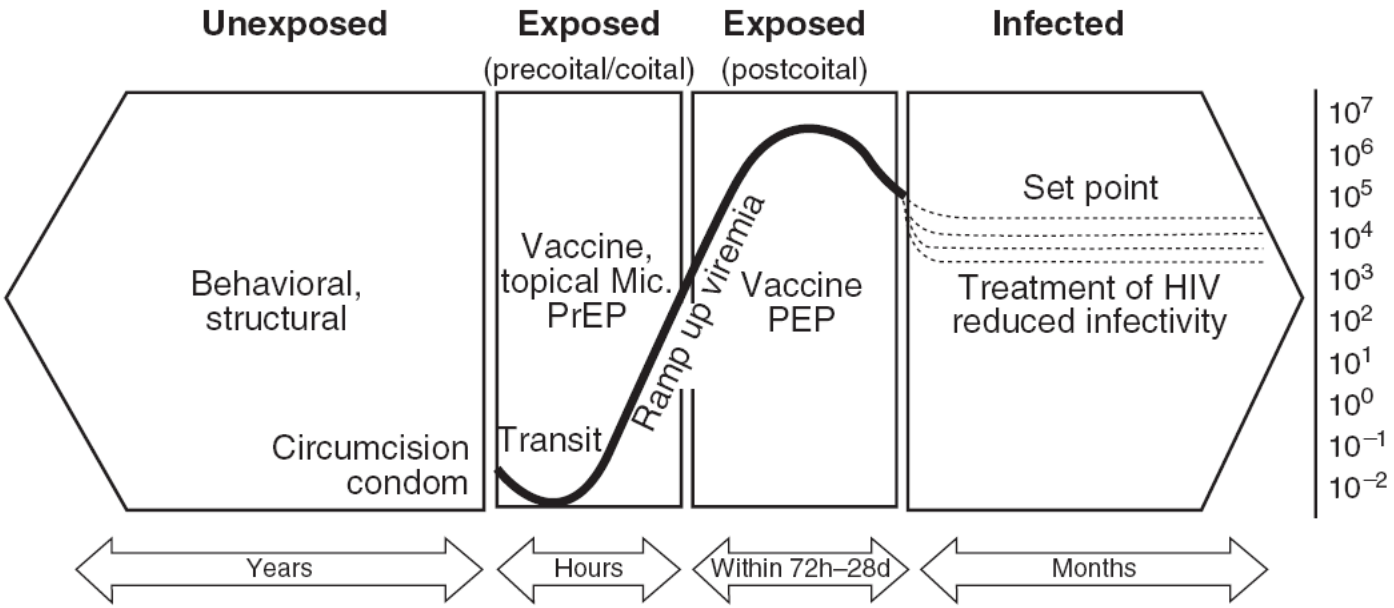
- First Aid
  - Wash wound
  - Squeezing of blood not necessary
  - Do not suck wound

- Reporting
  - Abide by institutional protocol
  - Observe confidentiality

Scientific Committee on AIDS and STI, Infection Control Branch, CHP, DH. Recommendations on the postexposure management and prophylaxis of needlestick injury or mucosal contact to HBV, HCV, and HIV. Sep 2007

Specific measure – HIV postexposure prophylaxis (PEP)

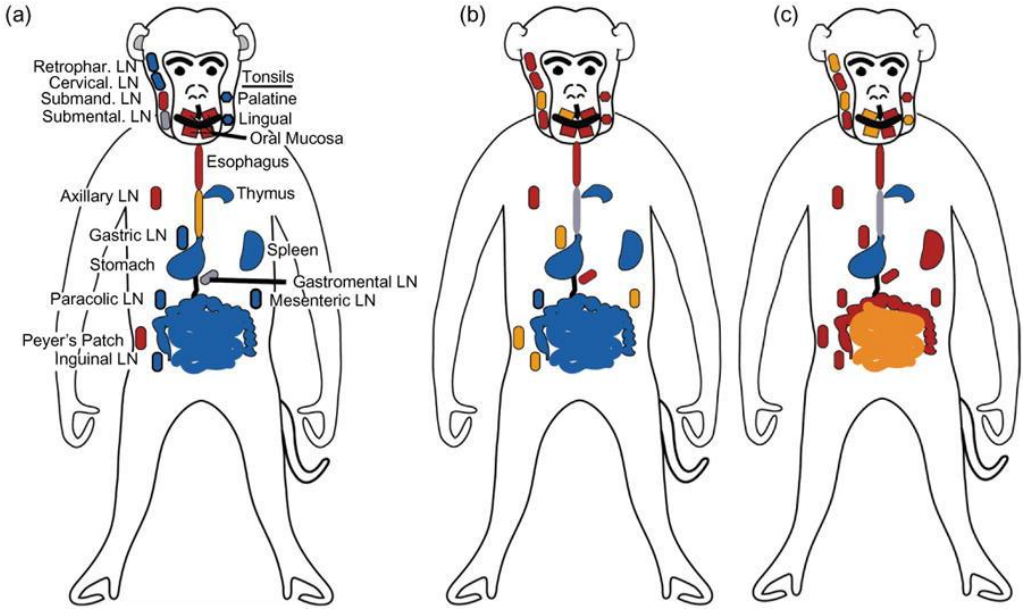
- The Holy Grail is an effective HIV vaccine
- The short cut is ART?



Origin of HIV PEP

- Followed documented seroconversion from occupational needlestick in US in 1980s
- Widely used by HCW
- AZT 1000-1200mg per day for 28 days
- Empiric; nil evidence

Oral mucosal challenge



Blue – PCR –ve for SIV; orange - <50% PCR reactions +ve; red - ≥50% PCR reactions +ve

- Takes time from exposure to infection

Spira AI, et al. J Exp Med 1996;183:215-25; Milush,et al. AIDS 2004;18:2371-2380

Animal studies of PEP

Animal model	Challenge	Results	Conclusions
SIV in macaque[1]	IV	4 weeks of PMPA (tenofovir) up to 24h post-challenge prevented infection in all 5 macaques; all controls were infected	Proof of concept
SIV and HIV-2 in macaques[2]	IV & rectal	1-5 days of BEA-005 given up to 6 days post-exposure were evaluated. Prevention is better with longer treatment and if started earlier than 24 h.	Immediacy and length of treatment are important
SIV in macaque[3]	IV	Delaying PMPA to 48 or 72 h postinoculation decreased significantly the efficacy of PEP; 10 d inferior to 28 d	PEP should be started within 72 h and continued for ≥28 d

1. Tsai CC, et al. Science 1995;270:1197-9
2. Bottiger D, et al. AIDS 1997;11:157-62
3. Tsai CC, et al. J Virol 1998;72:4265-73

Human study – no RCT

- Retrospective case control*
- HCW from US, UK, France and Italy
- Case = 33, controls = 665
- Risk factors for seroconversion
  - Deep injury
  - Injury with device visibly contaminated with blood
  - Needle having been in artery or vein
  - Source had AIDS
  - AZT use (OR=0.19 95%CI 0.06-0.52)

*Cardo EM, et al. A case-control study of HIV seroconversion in health care workers after percutaneous exposure. NEJM 1997;337:1485-90

Indirect evidence – MTCT studies

Supports PEP effectiveness

- NY DOH retrospective study* – AZT post-delivery up to 48h reduces transmission from 26.6% to 9.3%

- Prospective randomized trial in Malawi[#] – transmission rates are 7.7% (with postnatal AZT+NVP) and 12.1% (with postnatal NVP)

*Wade NA, et al. NEJM 1998;339:1409-14; [#]Taha TE et al. Lancet 2003;362:1171-7

Risks

Exposure to HIV +ve	Risk of transmission
Needlestick	0.2-0.4%
Mucosal membrane	0.1%
Receptive oral sex	0-0.04%
Insertive vaginal sex	≤0.1%
Insertive anal sex	≤0.1%
Receptive vaginal sex	0.01%-0.15%
Receptive anal sex	≤3%
Shared IDU	0.7%
Transfusion	90-100%

Assessment for PEP

- Source
  - General prevalence <0.1%
  - MSM 4-5%
  - IDU 0.5%
  - Rapid HIV test – result in 20 min
    - Obtain consent by another member of care team*
    - Beware window period
- Assessment of risk factors
  - Percutaneous vs mucosal
  - Viral load of source – AIDS? On ART?
  - Visible contamination with blood
  - Needle had been placed in vessel
  - Hollow bore
  - Deep injury

*Scientific Committee on AIDS and STI (2011). Principles of consent, discussion and confidentiality required of the diagnostic HIV test. www.aids.gov.hk

Antiretroviral PEP

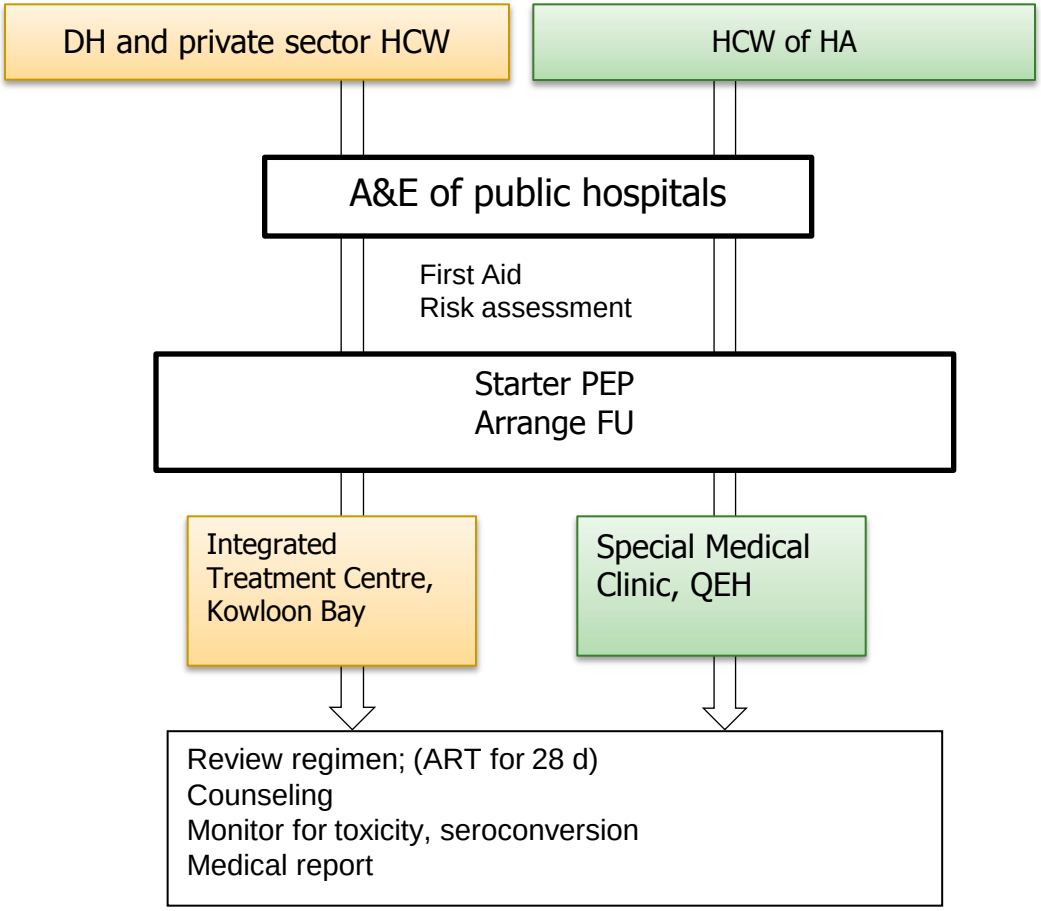
- HAART with 3 drugs recommended in Hong Kong
- (AZT + lamivudine + Kaletra) X 28 d
- Start ASAP ≤72 h
- Beware transmitted resistance

TABLE 1. Recommended HIV postexposure prophylaxis (PEP) for percutaneous injuries

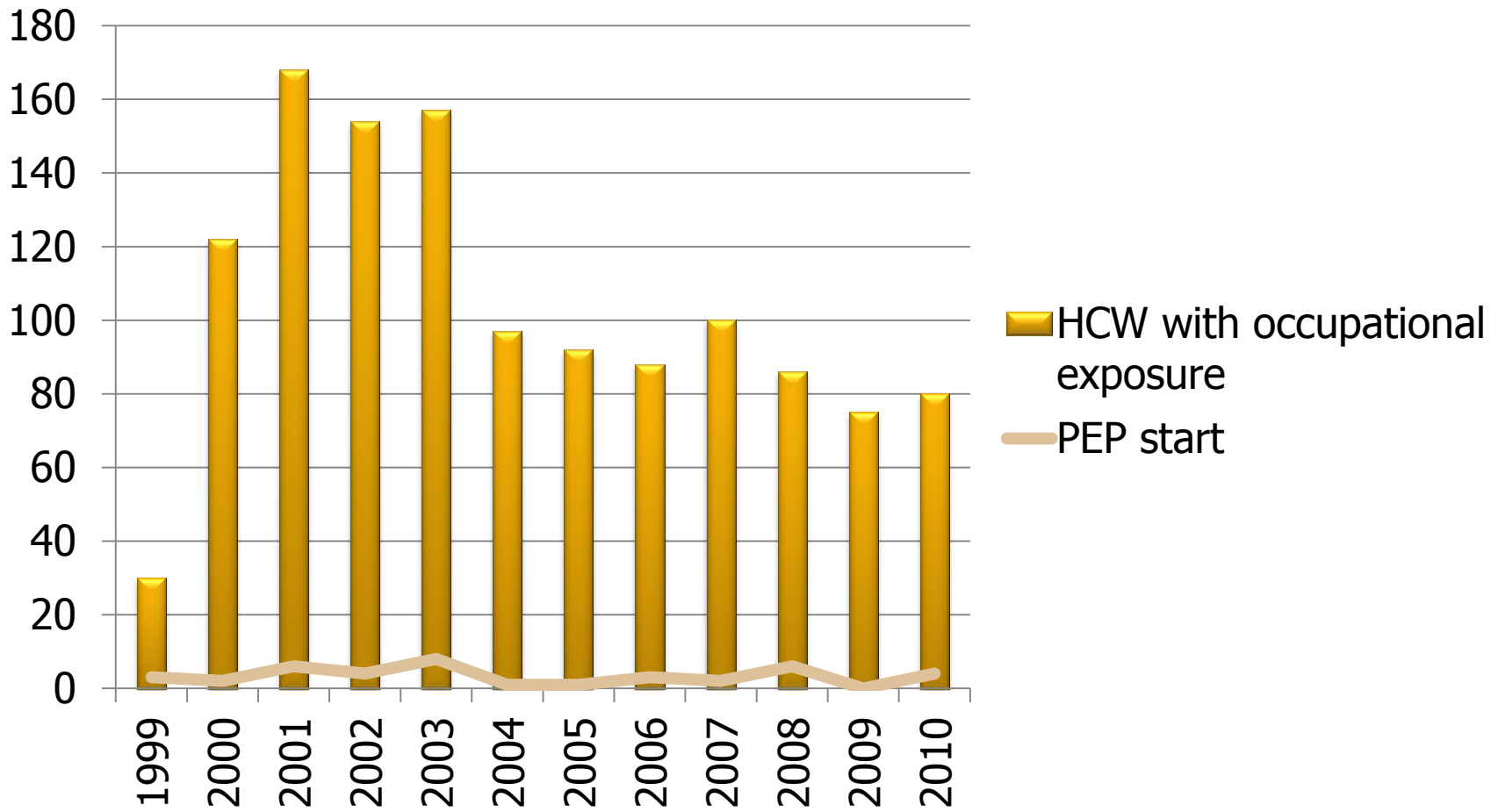
	Infection status of source				
Exposure type	HIV-positive, class 1*	HIV-positive, class 2*	Source of unknown HIV status†	Unknown source§	HIV-negative
Less severe¶	Recommend basic 2-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††	Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely	No PEP warranted
More severe§§	Recommend expanded 3-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††	Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely	No PEP warranted

From US CDC. MMWR 2005;54 (RR-9)

Local protocol for PEP



PEP in Integrated Treatment Centre



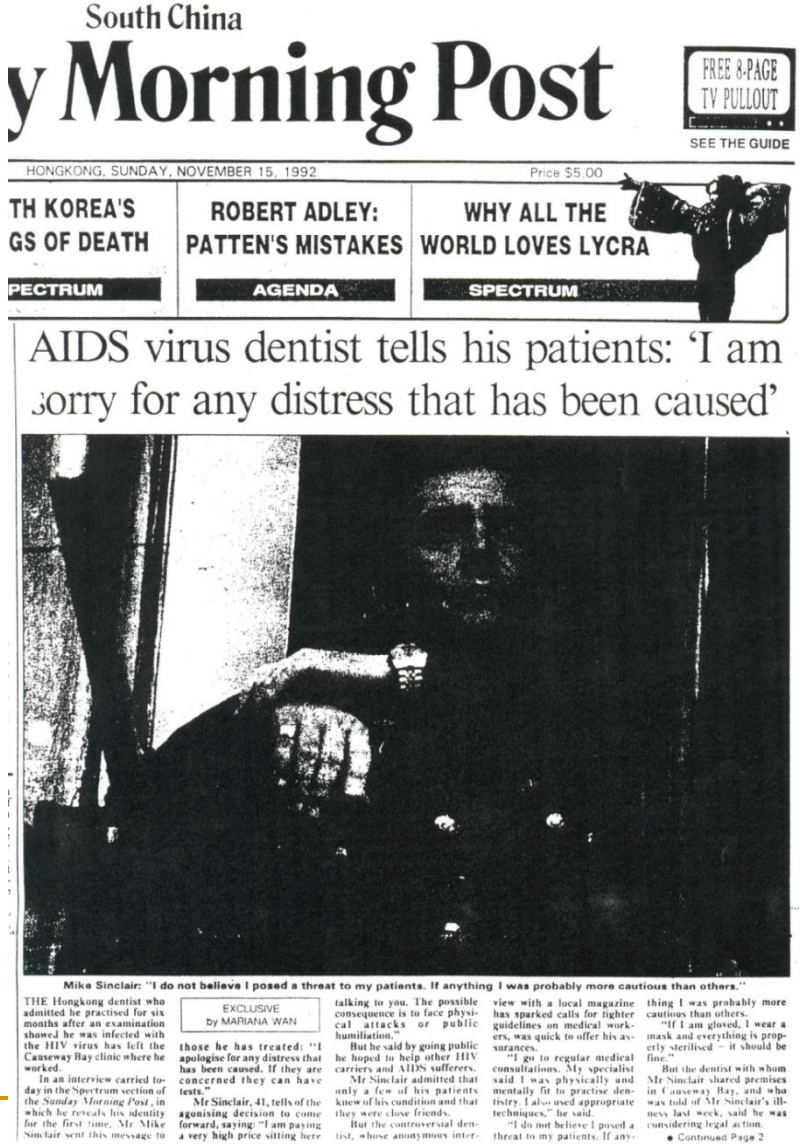
Conclusions

- PEP is available
- Effective (40%-80%)
- Earlier the better
- Has toxicity
- Needs followup

HIV infected health care worker

The case of Mike Sinclair

- Private dentist
- Self-declared HIV status in Nov 1992
- Publicly urged his patients to test for HIV



South China
y Morning Post

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TH KOREA'S GS OF DEATH
PECTRUM

ROBERT ADLEY: PATTEN'S MISTAKES
AGENDA

WHY ALL THE WORLD LOVES LYCRA
SPECTRUM

AIDS virus dentist tells his patients: 'I am sorry for any distress that has been caused'

Mike Sinclair: "I do not believe I posed a threat to my patients. If anything I was probably more cautious than others."

THE Hongkong dentist who admitted he practised for six months after an examination showed he was infected with the HIV virus has left the Causeway Bay clinic where he worked.

In an interview carried today in the Spectrum section of the *Sunday Morning Post*, in which he reveals his identity for the first time, Mr Mike Sinclair sent this message to those he has treated: "I apologise for any distress that has been caused. If they are concerned they can have tests."

EXCLUSIVE by MARIANA WAN

Mr Sinclair, 41, tells of the agonising decision to come forward, saying: "I am paying a very high price sitting here talking to you. The possible consequence is to face physical attacks or public humiliation."

But he said by going public he hoped to help other HIV carriers and AIDS sufferers.

Mr Sinclair admitted that only a few of his patients knew of his condition and that they were close friends.

But the controversial dentist, whose anonymous interview with a local magazine has sparked calls for tighter guidelines on medical workers, was quick to offer his assurances.

"I go to regular medical consultations. My specialist said I was physically and mentally fit to practise dentistry. I also used appropriate techniques," he said.

"I do not believe I posed a threat to my patients. If anything I was probably more cautious than others.

"If I am gloved, I wear a mask and everything is properly sterilised – it should be fine."

But the dentist with whom Mr Sinclair shared premises in Causeway Bay, and who was told of Mr Sinclair's illness last week, said he was considering legal action.

● Continued Page 2

Mike Sinclair

- Public controversy
- Withdrew from practice

29 NOV 1992 SING PAO DAILY NEWS

愛滋病帶菌牙醫

決定暫停醫務工作

加入基金會協助市民對愛滋病認識

【本報特訊】罹患愛滋病的外籍牙醫洗嘉（譯音）加入愛滋病基金會，協助推廣市民對愛滋病知識工作。

曾經因爲身爲愛滋病帶菌者但仍然執業而引起公衆關注的洗嘉終於決定暫時放棄其牙醫本行，答應出任「愛滋病基金會」的教育主任，投入幫助愛滋病者的工作。他將於本周二到基金會新開幕的育民服務中心上班，當日還進「世界愛滋病日」，他將現身說法。

愛滋病基金會發言人表示，中心方面主動接觸洗嘉，邀他加入工作，他將成爲該中心全職工作人員。

洗嘉是英國人，四十一歲，他將在一連串的電視短片中出現，推廣市民對愛滋病的了解，從而減少市民不必要的疑慮。

洗嘉表示，自從公開他的愛滋病帶菌者的身分後，能否繼續執業牙醫工作，已成爲公衆評論焦點，但想不到期間亦收到不少市民的慰問及支持的電話和信件，甚至在街上亦有陌生人向他表示支持。

他強調，普通人與他握手、或者擁抱他都不會有問題，不過，他承認自行公開身分，無疑是自毀前程，但他確信在距離失去工作能力的過渡期內，中心的新工作可以令他得到生活上的支持，況且，能爲同

問及樓遭遇的人提供輔導，未嘗不是一件樂事。

洗嘉說，現在的狀況，已不容許他有太長遠的打算，多想亦無益，他決心集中處理未來廿四小時的事。

AIDS

HIV — should that dentist tell?

Yes, say some — if the patients tell, too

By BETSY MAY VELOO

A HONGKONG dentist with the HIV virus has criticised the publicity being given to the dangers of AIDS in Hongkong, which he claims is neither strong nor personalised enough. The Government's AIDS campaign "lacks a human face", he says.

But the dentist has suddenly become

tion over that case, which involved a dentist named David Acer. It is still not known whether he passed on the virus or, if he did, how. And if he was responsible, how come only five patients were infected, and not 25? There's a big grey area in this case."

As for mandatory testing, Dr Carter says the idea is impractical: "How should it be done? Would health-care workers test

would only occur because of poor control guidelines.

Dr Lee adds: "We have been advocating universal precautions for years — people dealing with body fluids should use gloves, disposable needles and so forth. All body fluids should be regarded as potentially dangerous.

"There are guidelines in Britain, the US and Australia that indicate if a dentist

The case of Mike Sinclair – Do NOT repeat

Exposed what was WRONG or ABSENT

Obvious issues

- Confidentiality
  - Disclosure to patients
  - Disclosure to employer
- Need of expert assessment of
  - job modification
  - lookback
- Followup
- Lack of guidelines and regulatory mechanism

Guidance today

Major Governing Principles:

- General ethical principles
- Disability Discrimination Ordinance (1995)
- Hong Kong Advisory Council on AIDS (ACA) (1994, 2003). HIV infection and the health care workers – recommended guidelines
- Medical Council of Hong Kong (2009). Code of professional conduct

HIV-infected HCW

- General principles
  - Declaration of Geneva, 2006
    - THE HEALTH of MY PATIENT will be my first consideration
    - I WILL RESPECT the secrets that are confided in me, even after the patient has died
  - WMA. International Code of Medical Ethics 2006
    - A PHYSICIAN SHALL act in the patient's best interest when providing care
    - A PHYSICIAN SHALL respect a patient's right to confidentiality

Disability Discrimination Ordinance 1995

- HIV is included as one disability
- Pre-employment screening has to be carefully justified

AIDS ORIENTAL DAILY NEWS 28 JUL 1995 HON

弱能歧視草案今三讀
政府同意不強驗愛滋

【本報訊】立法局昨晚恢復二讀辯論殘疾歧視條例草案，政府同意修訂，僱主不能向所有申請人接受愛滋病測試，議員則要求政府給予僱用殘疾人士的僱主稅務豁免，公共機構亦要設立方便殘疾人士的設施。

草案若今日獲得三讀通過，任何人士若歧視殘疾人士，不論蓄意或中傷，均屬違法，日後會成立平等機會委員會，以消除對殘疾人士歧視及促進平等機會。

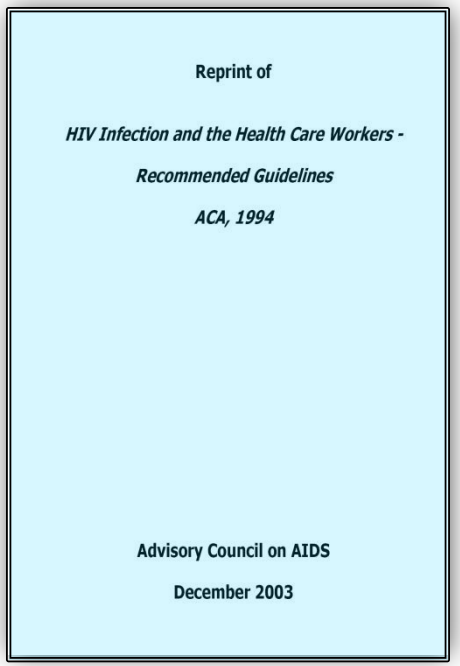
部分議員在重新恢復二讀辯論時表明，會修訂草案，胡紅玉表示，草案應加入殘疾人士若因歧視被解僱，應有復職機會，劉慧卿要求平等機會委員會有提出訴訟及代表原訴人出席的權力，否則草案形同虛設。

自由黨田北俊指會支持草案，但不支持部分修訂，例如平等機會委員會訂，僱主面對有權起訴小僱主不必事先提理由，令僱主面對極大困境。

立法局若有保留的情況下通過公共巴士服務（修訂）條例草案，加強港府與專營巴士公司談判運輸署權力，運輸科亦承諾在屆立法局，重新研究議員對條例的建議。

ACA guidelines 1994

- 2.4 Health care workers are generally not required to disclose their HIV status to their patients or employers.
- 2.5 There is no justification for restricting practice of health care workers on the basis of the HIV status alone. Restriction, if any, should be determined on a case-by-case basis
- 3.3.1 In exceptional circumstances, breach of confidentiality may be warranted, for instance when an HIV infected health care worker refuses to observe the restrictions and patients have been put at risk.


Reprint of

HIV Infection and the Health Care Workers - Recommended Guidelines

ACA, 1994

Advisory Council on AIDS

December 2003

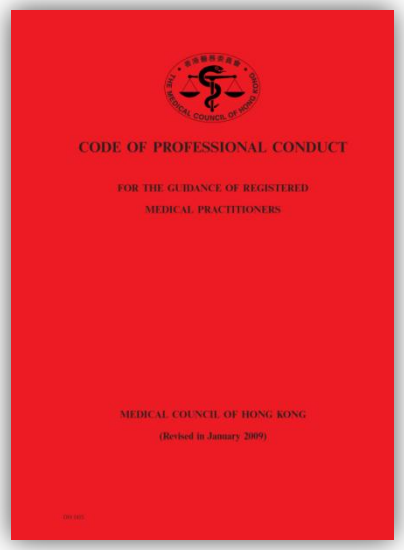
http://www.info.gov.hk/aids/pdf/g129.pdf

ACA guidelines

- 3.3.2 If work restriction is required, employers should make arrangement for alternative work, with provision for retraining and redeployment

- 3.3.3 The attending doctor of an HIV infected health care worker should seek the advice of the expert panel formed by the Director of Health …. The doctor who has counselled an HIV infected colleague on job modification and who is aware that the advice is not being followed an patients are put at risk, has a duty to inform the Medical/Dental Council for appropriate action

Medical Council of Hong Kong



4. Fitness to practice

- 4.3.1 *Responsibilities*
  - A doctor who has reason to suspect that he may be a carrier of a serious infectious disease… If confirmed , he must … prevent the spread of infection to his patients. Where appropriate a doctor should seek counselling and act accordingly…
- 4.3.3 *Confidentiality*
  - In general, a doctor is not required to disclose his infectious disease to patients. A doctor who treats or counsels another doctor should keep confidentiality. In exceptional circumstances, breach of confidentiality may be warranted, as for instance, when an infected doctor fails to observe certain restrictions putting patients at risk
- 4.3.4 *Right to work*
  - If work restriction is required, employers should make arrangement for alternative work, with provision for retraining and redeployment. Restriction … should be determined on a case-by-case basis

http://www.mchk.org.hk/Code_of_Professional_Conduct_2009.pdf

Expert Panel on HIV Infection of Health Care Workers

Terms of reference (1994 – now)

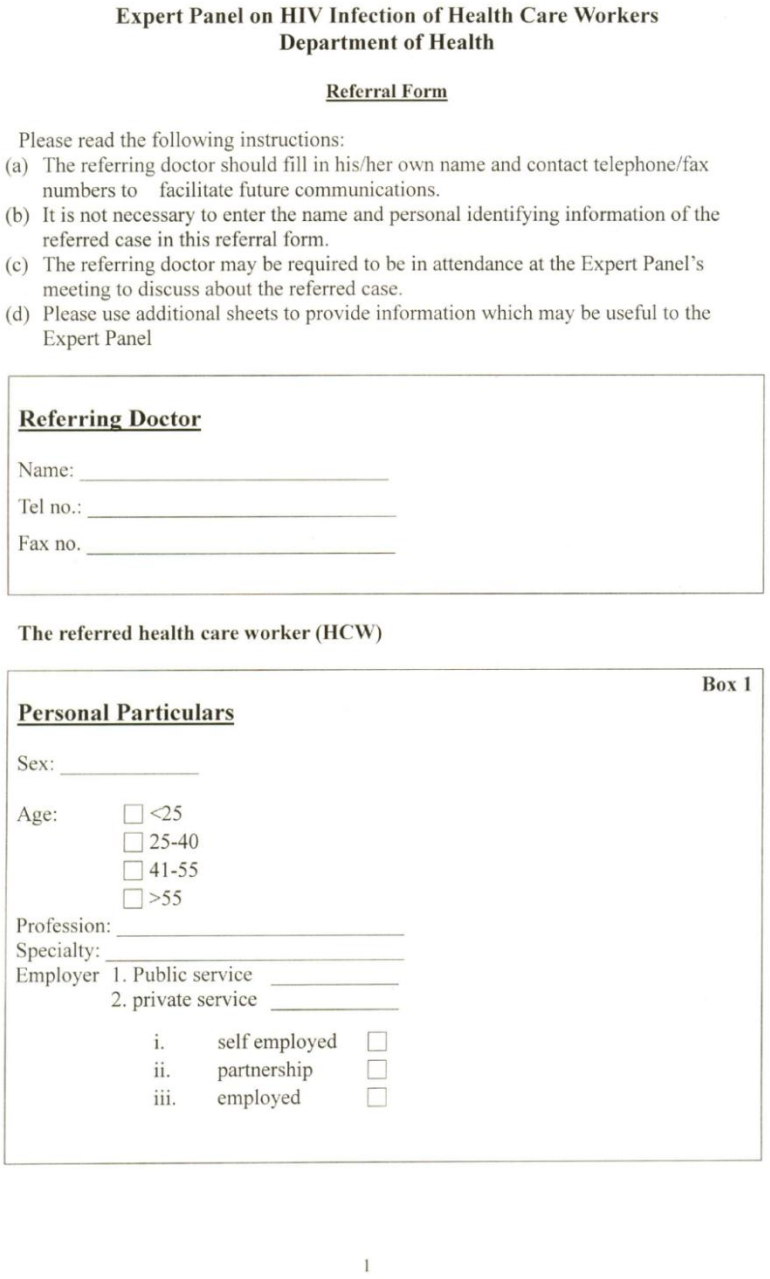
1. To advise on job modification
2. To relay recommendations to the referring doctor, the respective professional body and the Director of Health
3. To advise on need of lookback and other public health intervention
4. …

Current composition

- Public health specialist
- Infectious Disease and HIV physician
- Virologist
- Social work professional
- Occupational health expert
- (Co-opt members when necessary)

Referral to Panel

- Anonymous and confidential
- 3-page referral
- 3 areas of info
  - Work description
  - Infection control practice
  - Disease status
- Referring doc may be invited to give further details



Expert Panel on HIV Infection of Health Care Workers
Department of Health

Referral Form

Please read the following instructions:

(a) The referring doctor should fill in his/her own name and contact telephone/fax numbers to facilitate future communications.
(b) It is not necessary to enter the name and personal identifying information of the referred case in this referral form.
(c) The referring doctor may be required to be in attendance at the Expert Panel's meeting to discuss about the referred case.
(d) Please use additional sheets to provide information which may be useful to the Expert Panel

Referring Doctor

Name: _____

Tel no.: _____

Fax no. _____

The referred health care worker (HCW)

Box 1

Personal Particulars

Sex: _____

Age: ☐ <25
☐ 25-40
☐ 41-55
☐ >55

Profession: _____

Specialty: _____

Employer 1. Public service _____
2. private service _____

i. self employed ☐
ii. partnership ☐
iii. employed ☐

1

Box 2

Description of Work

	Y/N
1. Does the work require the use of sharp instruments?	
2. Does the work involve handling of body fluids, in particular blood?	
3. Does the work involve direct patient contact?	
4. Are there procedures that involve entry into patients' tissues?	

5. How long has the health care worker been in the present work? _____

6. List the procedures that involve the use of sharp instruments and direct contact with blood/body fluids.

Box 3

Infection Control Practice

	Y/N
1. Are there guidelines/protocols on infection control for the HCW's work?	
2. Is there any evidence that the HCW has not complied with the infection control practice?	

3. Has there been any incident of needle-stick injury (or other exposure) to the worker resulting in direct blood-to-blood contact between the worker and his/her patients? If yes, please specify the details of the event(s).

Box 4

HIV Infection

1. When was the diagnosis of HIV infection first made? _____

2. Was the diagnosis made in Hong Kong? _____

3. When, approximately, was HIV infection contracted? _____

4. Please elaborate on the current state of health, including its physical and mental aspects.

5. Has there been job modification since the diagnosis of the infection?. Please explain.

Work done

- 19 cases referred (1999 – 2011)
  - doctors, dentists, nurses, allied health
- 4 required job modifications
- None required lookback

Some consideration factors of lookback and job modification

- N.B.
  - Lookback is not routine
  - Poor yield and high cost
  - Case by case evaluation: NO algorithm

- Consideration factors
  - Procedures
  - Patient and disease
  - Institution

Lookback - Procedures

- US classification of procedures
  - Cat 1: *de minimis* (trivial) risk
  - Cat 2: theoretically possible but unlikely
  - Cat 3: definite risk, ie Exposure Prone Procedure
    - General surgery, general oral surgery, cardiothoracic surgery, Neurosurgery, Obs-Gyn surgery
- UK classification of EPP
  - Cat 1: Hands and fingers usually visible
  - Cat 2: not visible at all times
  - Cat 3: usually not visible
    - eg hysterectomy, cesarean section, open heart surgery
- Duration, complexity, emergency vs elective
- Record of documented or suspected needlestick, eg glove changing during surgery

1. SHEA guideline for management of healthcare workers who are infected with hepatits B, hepatitis C virus and/or human immunodeficiency virus. Infect Control Hosp Epidemiol 2010;31(3):203-32
2. DOH, UK (2005). HIV infected health care workers: guidance on management and patient notification. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4116416.pdf

Lookback – some other factors

Patient and disease

- Disease stage; viral load
- Duration of infection
- Effectiveness of and adherence to therapy
- Mental capacity
- Physical limitation
- History of competence, infection control breaks

Institution

- Standard of Infection control practice, including occupational exposure
- Record keeping

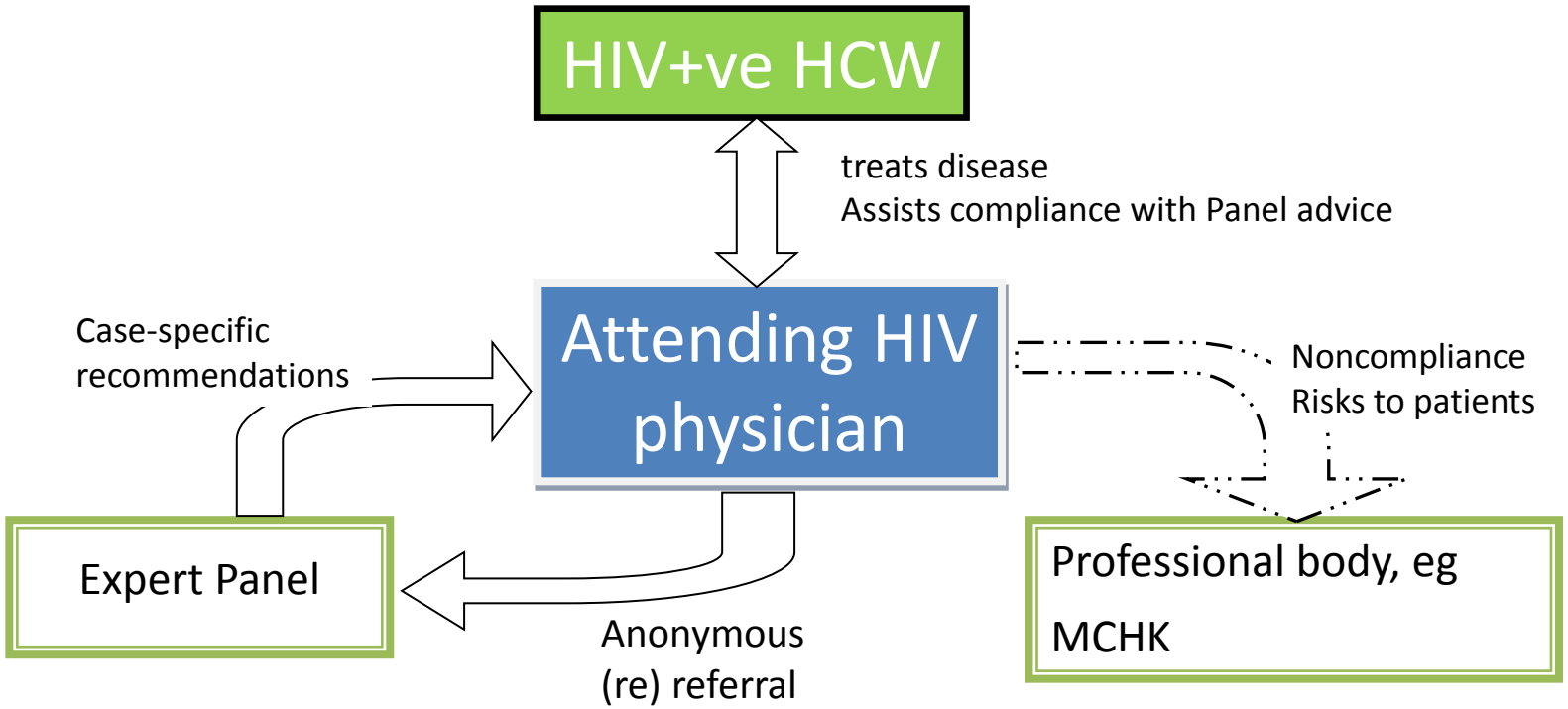
Job modification

- Examples of possible job restriction
  - Avoidance of certain EPP
  - Extra precautions
  - Assurance of effective treatment with low or undetectable viral load
- Assistance from employer – N.B. 'need-to-know' basis
  - Accommodation
  - Redeployment/retraining

1. SHEA guideline for management of healthcare workers who are infected with hepatits B, hepatitis C virus and/or human immunodeficiency virus. Infect Control Hosp Epidemiol 2010;31(3):203-32
2. DOH, UK. Management of HIV infected health care workers. A paper for consultation and Draft Equality Analysis. 2011 (http://www.dh.gov.uk/en/Consultations/Liveconsultations/DH_131532)

Central role of attending physician

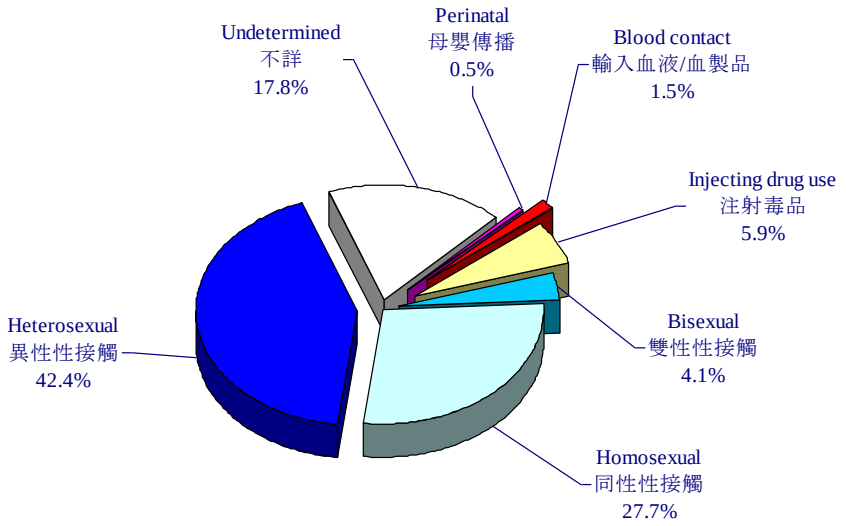
- Assist HCW in job modification
- Monitors compliance → inform professional body



Conclusions

- HIV infected HCW has
  - right to work, confidentiality as well as treatment
  - duty to protect patients
- Followed by attending HIV physician
- Advised by Expert Panel
- Governed by MCHK, etc

Postscript



- In HK, 5210 HIV infections reported by 2011:
  - No iatrogenic HIV infection other than blood and blood product transfusion
  - No occupational HIV infection in HCW

Postscript

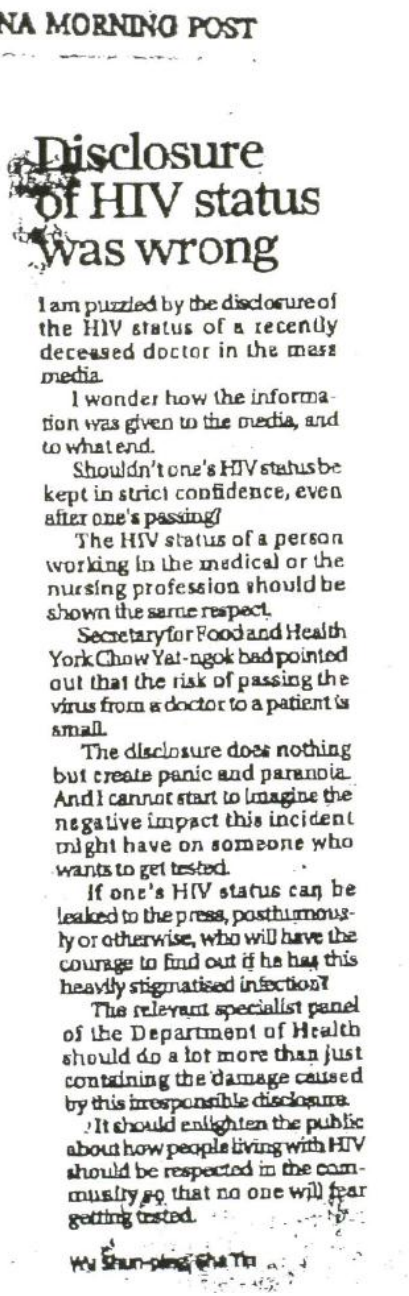
Déjà vu?

South China Morning Post

HEALTH

HOSPITAL STAFF 'MUST DECLARE HIV STATUS'

Concern group calls for compulsory disclosure of the virus among health workers and tests for patients, but Aids coalition says procedures already in place



SOUTH CHINA MORNING POST

Disclosure of HIV status was wrong

I am puzzled by the disclosure of the HIV status of a recently deceased doctor in the mass media.

I wonder how the information was given to the media, and to what end.

Shouldn't one's HIV status be kept in strict confidence, even after one's passing?

The HIV status of a person working in the medical or the nursing profession should be shown the same respect.

Secretary for Food and Health York Chow Yat-ngok had pointed out that the risk of passing the virus from a doctor to a patient is small.

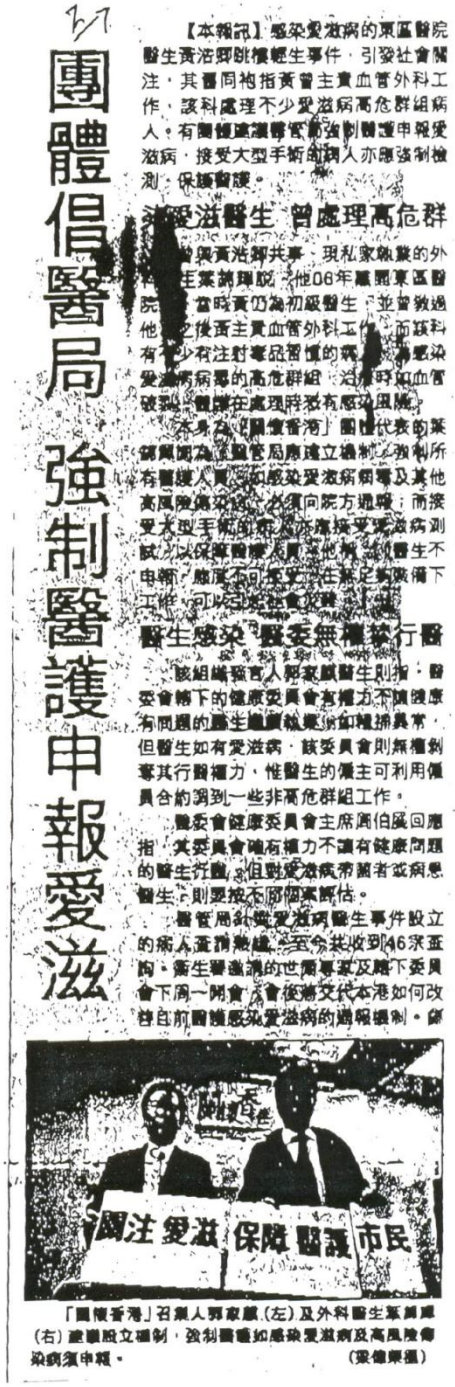
The disclosure does nothing but create panic and paranoia. And I cannot start to imagine the negative impact this incident might have on someone who wants to get tested.

If one's HIV status can be leaked to the press, posthumously or otherwise, who will have the courage to find out if he has this heavily stigmatised infection?

The relevant specialist panel of the Department of Health should do a lot more than just containing the damage caused by this irresponsible disclosure.

It should enlighten the public about how people living with HIV should be respected in the community so that no one will fear getting tested.

Wu Shun-ping, Sha Tin



團體倡醫局強制醫護申報愛滋

【本報訊】感染愛滋病的東區醫院醫生黃浩卿眺樓輕生事件，引發社會關注，其曾同袍指黃曾主責血管外科工作，該科處理不少愛滋病高危群組病人。有團體建議醫管局強制醫護申報愛滋病，接受大型手術的病人亦應強制檢測，保護醫護。

染愛滋醫生 曾處理高危群

與黃浩卿共事、現私家執業的外[redacted]生葉錦輝說，他06年離開東區醫院[redacted]當時黃仍為初級醫生，並曾教過他[redacted]後黃主責血管外科工作，而該科有[redacted]少有注射毒品習慣的病人，為感染愛滋病最的高危群組，過程時如血管破裂，醫護在處理時很有感染風險。

[redacted]本身為「關懷香港」團體代表的葉錦輝認為，醫管局應建立機制，強制所有醫護人員，如感染愛滋病病毒及其他高風險傳染病，必須向院方通報；而接受大型手術的病人亦應接受愛滋病測試，以保障醫護人員免於感染。「醫生不申報，應屬不可接受，在無足夠保護下工作，可以引起社會恐慌。」

醫生感染 醫委無權執行醫

該組織發言人郭家麒醫生則指，醫委會轄下的健康委員會有權力不讓健康有問題的醫生繼續執業，如精神異常，但醫生如有愛滋病，該委員會則無權剝奪其行醫權力，惟醫生的僱主可利用僱員合約調到一些非高危群組工作。

醫委會健康委員會主席周伯展回應指，其委員會確有權力不讓有健康問題的醫生行醫，但對愛滋病帶菌者或病患醫生，則要按不同個案評估。

醫管局針對愛滋病醫生事件設立的病人查詢熱線，至今共收到46宗查詢，衞生署通識的世衞專家及顧下委員會下周一開會，會後將交代本港如何改善目前醫護感染愛滋病的通報機制。

「關懷香港」召集人郭家麒（左）及外科醫生葉錦輝（右）建議設立機制，強制醫護如感染愛滋病及高風險傳染病須申報。（張偉雄攝）