



THE HONG KONG COLLEGE OF ANAESTHESIOLOGISTS

March 1997

NEWSLETTER

Editor: Dr. T.W. Lee

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Message from President

The first Annual Scientific Meeting (ASM) in Anaesthesiology jointly organised by the College and Society of Anaesthetists has met with great success. With over 100 delegates attending the Scientific meeting, favourable comments and constructive ideas were received from the participants. The Advanced Airway Management Workshop organised before the Annual Scientific Meeting was also highly commended by those attending the workshop. Some of the trainees thought such workshops should be held more regularly. Taking into account the short lead time in organising both the Scientific Meeting and the Workshop, the Organising Committee for organising both activities must be congratulated for all their hard work done for anaesthesiologists in Hong Kong. In particular, I would like to express our sincere appreciation for Dr. P.W. Cheung, Chairman of Scientific Meeting Organising Committee, and Dr. Mike Moles, Convenor of Airway Workshop for their dedication in making the Meeting and Workshop so successful and so fruitful. Council has decided that the Airway Workshop will be held regularly at half-yearly intervals and the Annual Scientific Meeting will of course be on annual basis. Dr. Stephen Wong of QEH has kindly taken up Chairmanship of the Organising Committee for ASM. I pledge to members and fellows to give the Organising Committee the same degree of support, if not more, as in last year. Those who would like to join the Organising Committee please contact Dr. Stephen Wong at QEH.

Our College homepage will soon appear on the world wide web. Many of the other anaesthesia colleges/societies are now already on the internet, including ANZCA, RCA and American Society of Anaesthesiologists. College Council has debated on this issue and decided this is a worthwhile project. The domain name of "hkca.edu.hk" has been registered for our College and we are now in the process of designing the homepage. I would believe that this will become an efficient way of communication between College and her Fellows, and between College and the public. Useful information educational in nature will be available for viewing by the public which will improve the image of anaesthesiologists. Newsletter and relevant application forms will also be available on the homepage. Members or Fellows can send an e-mail to College Offices at any time through the internet. Those cyberspace explorers will need to look out for the launching of our homepage in a few weeks' time.

The nomination exercise for the Council has ended. In total 15 nominations have been received which equals the number of vacancies. No election would therefore be necessary for the new Council. I can see that the next two years will again be very crucial for the development of our College because in about 100 days, the sovereignty of Hong Kong will be handed back to Chinese Government. This is a potential period of turmoil. Much has been done in the past to lay down the infrastructure of the College especially about the examination systems. All these have to be maintained beyond July 1997 when we are seeking for recognition or equivalence from other overseas Colleges. Continued support from all the members and fellows will be much needed after 1997 especially to the new Council.

Dr. C.T. Hung
President
March 1997

Reports of Boards and Committees

Board of Accreditation

Chairman: Dr. Clement Yuan

The agenda for 1997 involves review inspection of the Ruttonjee/TSK/TWE Hospital Group, Tuen Mun & Kwong Wah Hospitals with the first group having returned their application.

Application for accreditation has been received from Tung Wah Hospital and the duly completed form has been received from the hospital.

A request for approval of training at the Duchess of Kent Childrens Hospital has been received with formal application underway.

The above work is expected to be completed by the first half of 1997.

The third quarter of 1997 will see the accreditation of Pain Management centres in preparation for approved training for the Diploma of Pain Management organised by the Hong Kong College of Anaesthesiologists. Much of this work involves Professor Joseph Yang & his committee. The newly completed intensive care unit in Kwong Wah Hospital will also be reviewed in conjunction with the Intensive Care Committee.

The final quarter activity involves a review of the intensive care training centres that were approved in the fourth quarter of 1996. Requests for accreditation from a Department should go through the Hospital Chief and be sent to the Secretary of the College or directly to the Chairman of the Board of Accreditation who shall forward on to the Secretary.

Since the accreditation process involves much effort by members of the Board and necessarily involves making time for inspections during the service time of participants we shall try to streamline as much as possible to meet the expectations and demands of the individual members of the accreditation committee. Council is grateful to the Hospital Authority for allowing the accreditation to take place during service time.

Highlights of Council Meetings

69th Council Meeting held on 12th December, 1996

HKCA Basic Science Course

Hong Kong Oxygen could not confirm sponsorship for the course this year. Council resolved to sponsor visit of the tutor if funds are not forthcoming. SAHK agreed to set aside \$20,000 from the gross proceeds of the ASM to sponsor Dr. Kam's visit. The rest of the proceeds will be shared between the HKCA and SAHK.

HKAM

Prof. Alan Chang was elected Vice-President (Education and Examination).

Renaming of the HK College of General Practitioners to HK College of Family Physicians was approved.

The new HKAM Building will be ready for occupation in 1998.

Education committee

President will write on behalf of the Council to thank Dr. Moles for the excellent Airway Management Workshop, and to invite him to organise future workshops. Council approved the purchase of models recommended by Dr. Moles. Council also approved appointment of Dr. KM Ho as co-organiser of future workshops.

Intensive Care Committee

Council recommended that candidates presenting for the inaugural examination need not be currently working in an ICU but they must have spent at least one third of his/her working time in intensive care for the past three years prior to the first of January, 1997. Eligible candidates will be allowed to present in the first two examinations.

Company Secretary

Council approved the appointment of Cowal Secretaries Limited of R Kadir & Company to assist the Hon. Secretary to handle matters relating to the companies registry, such as annual return, and notification of appointment and resignation of directors (Council Members).

Basic Sciences Course in 1997

Dr. Peter Kam has agreed to be tutor for the Basic Sciences Course in 1997, and the tentative date will be in the first two weeks of December. Council resolved that the course should be self sufficient financially.

70th Council Meeting held on 14th January, 1997

Internet homepage

The President has negotiated a deal with Vision Online as ISP for the College. The total initial cost of setting up the Homepage will be \$1,200 and the monthly cost will be \$558.

Education committee

This year's ASM will be held in November or December. President will liaise with anaesthesiology COC of HA for the ASM to coincide with the HA Commissioned Training in Anaesthesiology. Dr. Stephen Wong of QEH was appointed Chairman of the organising committee.

Board of accreditation

Drs Joyce Wong and Tim Short have resigned from the Board.

Study on the personality profiles of anaesthesiologists in HK

Dr. CT Hung is interested in collaborating with Dr. Peter Kam in sending out questionnaires to College fellows and members to survey their personality profiles. Council resolved in principle to support the study, but the protocol will be reviewed.

71st Council Meeting held on 11th February, 1997

Internet homepage

The President has applied to register "hkca.org.hk" as the College domain name.

Amendment of College Bylaws

Council recommended the following amendments of the College Bylaws in the next AGM, subject to approval by HKAM:

- a) Council elections will be held every two years.

- b) The term of office of President shall be for two years, but shall not exceed four years consecutively.
- c) The term of office of Vice President shall be for two years, but shall not exceed four years consecutively.
- d) The terms of offices of Secretary, Assistant Secretary, Treasurer and Assistant Treasurer shall be for two years, but shall not exceed six years consecutively.
- e) The terms of office of Immediate Past President shall be for two years only.
- f) There shall not be an Office of President Elect.

HKAM

A Sir David Todd oration will be held yearly. This year's lecture will be held in November. The invited speaker will be Prof. YW Kan.

The HKAM has approved the installation of audio-visual facilities for tele-conference in the future HKAM building.

Education committee

Council resolved that an examiners' meeting will be held on 10th April, 1997 in PWH for the intermediate examiners. A tutorial for trainees will be organised for the examiners of the final examinations and the venue will be QMH.

Intensive Care Committee

FICANZCA has nominated Dr. Richard Lee from Sydney as external examiner for the examination in October.

Guidelines Committee

Council approved the following guidelines:

- T1: Protocol for checking the anaesthetic machine
- P15: Guidelines on infection control in anaesthesia

Glaxo Wollcome Scholarship

Dr. Rodrigo was re-appointed co-ordinator for the Glaxo-Wellcome scholarship.

New Members and Fellows

Council approved admission of the following as Members of the College:

- | | |
|--------------------------|-------------------------|
| Dr. Mulnier, Charlotte | Dr. Lim, Huey Sing |
| Dr. Hui, Ki Ling | Dr. Lui, Yin Wai Arthur |
| Dr. Yeo, Victor | Dr. Suen, Sat Tsz |
| Dr. Lui, Wan Woon Peter | Dr. So, Chi Long |
| Dr. Morley, Andrew Peter | Dr. Tan, Enk Ee |
| Dr. Yeo, Khee Sim June | Dr. Siu, Kin Lok |
| Dr. Chui, Kai Yeung | Dr. Kwok, Fung Kwai |

Dr. Chan, Kin Wai

Dr. Fernando, Panthiyage Upali Egerton

Dr. Mainland, Phoebe-Anne

Council approved admission of the following as Fellow of the College by examination:

Dr. Cheng, Yin Chi

Council approved admission of the following as Fellow of the College ad eundem:

Dr. Mainland, Phoebe-Anne

Dr. Fernando, Panthiyage Upali Egerton

Council approved admission of the following as FHKCA(IC) ad eundem:

Dr. Yong, Boon Hun

New Appointments

Professor

Dr. Chung, David

PWH

Consultant

Dr. So, Hing Yu

AHNH

Senior Medical Officers

Dr. Leung, Chung Cheung

QMH

Dr. Koo, Chi Hung

QEH

Dr. Chan, Shu Fat

UCH

Dr. Ling, Leong Chow

TGH

Chief of Service

Dr. Lui, Joseph

CMC

Glaxo-Wellcome Continuing Education Scholarship 1997

The Glaxo-Wellcome Continuing Education Scholarship 1997 is now open for application. It is jointly organised by the Hong Kong College of Anaesthesiologists, the Society of Anaesthetists of Hong Kong and Glaxo (HK) Ltd. There will be two scholarships each of HKD\$26,000 for overseas training. One will be granted to a trainee, while the other will be granted to a fellow for post-fellowship training. Overseas post-fellowship training of less than 8 weeks will also be considered.

Further details can be obtained from the Convenors:

Dr. C. Rodrigo of the HKCA (c/o Department of Anaesthesia, Prince Philip Dental Hospital) and Dr. Chan Chi Keung of the SAHK (c/o Department of Anaesthesia, Hong Kong Eye Hospital).

Deadline for application will be 1st May, 1997.

New Guidelines

T1: Protocol for checking the anaesthetic machine

1. Introduction

- 1.1 The regulated supply of gases and vapours for anaesthesia and the provision of controlled ventilation for the patient are the main functions of the anaesthetic machine or workstation. Because oxygenation and ventilation are essential for every patient and because even a brief failure to maintain them may cause irreparable harm, every machine must be regularly and thoroughly checked to ensure that all functions are correctly maintained.
- 1.2 There must be a reserve facility to maintain oxygenation and ventilation of a patient should failure of the primary systems occur.
- 1.3 To ensure early detection of any failure in the anaesthetic machine, it is essential that appropriate alarms are present in the machine and that there is monitoring of the state of the patient as specified in College Policy Document P1 Guidelines for monitoring in anaesthesia.
- 1.4 This protocol incorporates three components :
 - 1.4.1 **Level One check.** This is very detailed and is required on any new machine and on all machines after the required regular servicing.
 - 1.4.2 **Level Two check.** This should be performed at the start of each anaesthetic session.
 - 1.4.3 **Level Three check.** This should be performed immediately before commencing each subsequent anaesthetic.

Each check must be derived specifically for the machine under test and the Anaesthesia Department (on behalf of the hospital administration) is responsible for the training and accreditation of the personnel involved with each test.

- 1.5 Accreditation for checking the anaesthetic machine requires :
 - 1.5.1 **Level One.** Attendance at a manufacturer's course or by attendance at a programme developed jointly by the hospital's Bioengineering and Anaesthesia Departments.
 - 1.5.2 **Levels Two and Three.** Checks must follow protocols specifically developed for the machine under test. All personnel must be trained in correct procedures and accredited to perform them by the Anaesthesia Department. The specific protocols should be attached to the machine.

2. Protocols

- 2.1 **Level One check.** This must be performed on new anaesthetic machines before they enter service and following all service inspections, which must be performed at regular and specified intervals.
 - 2.1.1 The Hospital, Anaesthesia Department or body responsible for the equipment shall keep a detailed record of the equipment and the checking procedures. This process requires that a checklist be maintained. The checklist will be based on manufacturer's guidelines, and on Biomedical Engineers and Anaesthesia Department recommendations. The protocols shall describe checking and calibration protocols and the intervals at which these must be performed.

2.1.2 The anaesthetic machine must have a prominent label to advise of past service(s) and to indicate when the next check is due. This label must be visible to the anaesthesiologist.

2.1.3 **Gas Delivery System.** The check shall include :

2.1.3.1 Quantifying and minimising leaks

2.1.3.2 Excluding crossed pipelines within the machine

2.1.3.3 Ascertaining the correct functioning of non-return valves throughout the system

2.1.3.4 Ascertaining the integrity of oxygen failure prevention and warning devices

2.1.4 **Anaesthetic Vapour Delivery System.** The check shall include :

2.1.4.1 The method and accuracy of vapour output and delivery devices

2.1.4.2 The calibration of vapour output devices and monitors

2.1.5 A formal check of compliance of all components of the machine or part of the machine (after servicing of that part) with the relevant standard is essential.

2.1.6 The check specified above must be undertaken by a suitably qualified person. The check must be recorded with inclusion of information as to what was checked, and by whom.

2.2 **Level Two check.** This check must be undertaken by a suitably qualified person (such as an anaesthesiologist or technician) in accordance with a protocol specific for the particular machine. Thus several different protocols may be required in a single hospital. These will serve to verify the correct functioning of the anaesthesia machine before it is used for patient care. Equipment required for the tests must be available on each machine.

2.2.1 **High Pressure System**

2.2.1.1 Check oxygen cylinder supply. Ensure that cylinder content is sufficient for its intended purpose.

2.2.1.2 Check that piped gas supplies (where present) are at the specified pressures and that following high pressure system checks, the cylinders are turned off.

2.2.1.3 Check gas pipeline connections. Confirm correct pipeline supply using an oxygen analyser or multigas analyser.

2.2.2 **Low Pressure System**

2.2.2.1 Check control valves and flow meters. Turn on each gas and observe the appropriate operation of the corresponding flow meter. Check the functioning of any interactive anti-hypoxic device.

2.2.2.2 Check that any required vaporiser is present :

2.2.2.2.1 Check that adequate anaesthetic liquid is present

2.2.2.2.2 Ensure that the vaporiser filling ports are closed.

2.2.2.2.3 Check correct seating and locking of a detachable vaporiser.

2.2.2.2.4 Test for circuit leaks for each vaporiser in both on and off positions.

2.2.2.2.5 Ensure power is available for electrically operated vaporisers

2.2.2.3 Check for pre-circuit leaks using a method sensitive to 100 ml / minute and appropriate for the specific machine.

2.2.2.4 **Breathing systems.** Check the general status to ensure correct assembly and absence of leaks. The precise protocol will depend on the anaesthesia circuit to be used.

2.2.2.4.1 In the circle system check its integrity and the functioning of unidirectional valves.

This can be accomplished with a breathing bag on the patient limb of the Y-piece. Ventilate the system manually using an appropriate fresh gas flow. Observe inflation and deflation of the attached breathing bag and check for normal system resistance and compliance. Observe movement of unidirectional valves. Check function of adjustable pressure limiting (APL) valve by ensuring easy gas spill through APL when the two breathing bags are squeezed.

2.2.2.4.2 Perform leak test on circle with breathing bag attached to Y-piece and fresh gas flow of 300 ml / min.. Pressure of more than 30 cm of water is necessary to exclude significant leaks but requires the presence of a machine pressure relief valve set to 50 - 60 cm. of water and an in-circuit pressure gauge.

2.2.3 **Automatic Ventilation System.** This should be checked according to the manufacturer's recommendations. This test protocol must be present on the machine. A test lung (such as suitably compliant bag) may be used to check the function of the ventilator. Where practicable, gas flow should be reduced to check for leaks. The functioning of disconnection and high pressure alarms should be checked at this time.

2.2.4 **Scavenging System.** This should be checked after connection to APL valve and ensuring a free gas flow. If there is negative pressure in any part of the system, ensure that this does not lead to emptying of the breathing system. With the patient outlet occluded, a full breathing system should not empty with the APL valve open.

2.2.5 **Emergency Ventilation System.** Verify the presence and functioning of an alternative method of providing oxygen and of controlled ventilation (such as a self-inflating bag).

2.2.6 **Other apparatus to be used.** This should be checked according to specified protocols. Attention should be given to :

2.2.6.1 Equipment used for airway maintenance and intubation of the trachea.

2.2.6.2 Suction apparatus

2.2.6.3 Gas analysis devices

2.2.6.4 Monitoring equipment. Special attention should be paid to alarm limits and any necessary calibration.

2.2.6.5 Intravenous infusion devices

2.2.6.6 Devices to reduce hypothermia during anaesthesia

2.2.6.7 Breathing circuit humidifiers

2.2.6.8 Breathing circuit filters

2.2.7 **Final check.** Ensure vaporisers are turned off and that the breathing system is purged with air or oxygen as appropriate.

2.3 **Level Three check.** Immediately before commencement of each anaesthetic, the anaesthesiologist should :

2.3.1 Check a changed vaporiser using the protocol outlined in 2.2.2.2.

2.3.2 Check a changed breathing circuit using the protocol outlined in 2.2.2.4.

2.3.3 Check that equipment as specified in 2.2.6 is ready for the next case.

P15: Guidelines on infection control in anaesthesia

1. Introduction

In order to ensure that the practice of anaesthesia is as safe as possible for patients, anaesthesiologists and other health care workers it is imperative that infection risks to all parties be minimised.

It is impossible to issue a policy which if observed would ensure that infection was never transmitted via anaesthetic apparatus. What follows is a policy based on current understanding of the risks of such transmission. In certain clinical situations there may be a need to adopt more stringent practices. This Policy should be considered with documents on this subject issued by other Authorities.

2. Definitions

Decontamination: The process of removing infective and unwanted matter from the surface of an object, i.e. thorough cleaning.

Disinfection: A process which eliminates many or all micro-organisms except those spores.

Sterilisation: A process which leads to the complete elimination of all micro-organisms.

Asepsis: The prevention of contact with micro-organisms.

For disinfection or sterilisation to occur there must have been previous thorough decontamination.

3. Minimisation of infection risk to patients

Measures to protect patients against acquiring infections through anaesthesia procedures need to address (i) risks related to invasive procedures; (ii) risks or potential risks related to airway management. In both situations appropriate levels of sterility, disinfection and decontamination are to be applied to all equipment used. A microbiologist should be consulted about any matters requiring clarification with local application of this policy. Frequent handwashing by the anaesthesiologist and the anaesthetic assistant is a most important infection control measure. Hands should be washed before handling a new

patient or equipment to be used on a new patient, after leaving a patient, whenever they become contaminated and before any invasive procedure. For the anaesthesiologist's protection protective gloves are to be worn whenever the hands may contact blood, saliva or any other body fluid and are to be removed after such a procedure to minimise contamination of the work place.

3.1 Invasive Procedures

Invasive procedures are to be performed with aseptic technique.

3.1.1 Vascular Cannulation

The cannulation site is a potential portal of entry of micro-organisms into the subcutaneous tissues and circulation. The anaesthesiologist's hands must be washed and protective gloves should be worn. The skin should be disinfected with an appropriate preparation prior to cannulation being performed in a manner which ensures that the tip and shaft of the cannula remain sterile.

3.1.2 Central Vascular Cannulation

Cannulation of central veins is to be performed using aseptic technique.

3.1.3 Drip set

Every drip set should be dedicated to one patient. The tip should be kept clean all the time.

3.1.4 Regional Anaesthesia

When regional blocks are being performed, the hands should be washed and gloves worn, the skin should be disinfected with a suitable preparation and the procedure done in such a way that the needle remains sterile. When a spinal or epidural block is being performed or a catheter is to be left indwelling, full aseptic technique including the wearing of sterile gown and gloves and the use of a field bordered by sterile drapes is recommended.

3.2 Anaesthetic Apparatus

The following measures are intended to minimise the risk of transmission of infection in the respiratory tract via anaesthetic equipment. This policy does not address the processing of equipment during long term ventilation.

3.2.1 Devices to be sited in the upper airway

Devices passing through the mouth or nose will become contaminated in the upper airway. Endotracheal tubes, nasal and pharyngeal airways should be kept sterile until used.

Reusable face masks must be thoroughly decontaminated and then undergo disinfection prior to each use. Items to be placed in the upper airway which may cause bleeding e.g. laryngoscope blades and temperature probes, must be disinfected before reuse. It is not ordinarily necessary to package these items separately while they await their next use. Where the manufacturer advises that a particular piece of equipment is to be sterilised before use, e.g. the laryngeal mask, that advice is to be followed. Laryngoscope handles should be decontaminated between uses.

There should be separation of unused items and soiled items during use.

3.2.2 The Breathing Circuit

For each patient the Breathing Circuit should have been sterilised, or decontaminated and disinfected or protected by the use of appropriately positioned new filters. When a filter is used, it is recommended that disposable items between the patient and the filter be disposed of and non-disposable items, including in-line measurement devices, be decontaminated and disinfected prior to reuse. Any condensate that collects in the tubing of a breathing circuit should be periodically drained and discarded, taking precautions not to allow condensate to drain towards the patient. Hands should be washed after handling the fluid.

3.2.3 Sampling Lines for Side Stream Gas Analysis

These need not ordinarily be sterilised before reuse because of the one way flow of gas through them. Sampled gas from a capnograph or other such measurement device should not be returned to the anaesthetic circuit unless it is first passed through a viral filter.

3.2.4 Carbon Dioxide Absorbers

When a filter is used in the circuit as described in 3.2.2 above, sterilisation of the carbon dioxide absorber prior to every case is not necessary nor with most models is it practicable although disposable versions and models capable of being sterilised are available. The device including the unidirectional valves should be disinfected regularly.

3.2.5 Ventilator Circuits and Bellows

These items should be cleaned and disinfected regularly.

3.2.6 Anaesthetic machine

Routine sterilization or high-level disinfection of the internal machinery of anaesthetic machines is considered unnecessary.

3.2.7 Flexible Laryngoscopes and bronchoscopes

These instruments and accessory equipment must be sterilised between uses.

3.2.8 Humidifier

Sterile water is used to fill humidifiers. Hot water bath type humidifiers should be disinfected between uses.

3.3 Presentation of drugs for injection

Because of the potential for cross infection, the use of the contents of multiple dose vials and ampoules for more than one patient is not recommended except in a dispensing situation where different doses are drawn up before administration of first dose to a patient. Likewise it is recommended that any infusion should be prepared and used for one patient only.

3.4 Patient Factors

In immunosuppressed or immune deficient patients to whom infection poses a particular threat, there may be reason to apply more stringent practices than those outlined.

4. Prevention of infection of health care workers

Health care workers are recommended to follow universal precautions.

