

GENERAL INSTITUTIONAL REQUIREMENTS

The training hospital should fulfil the following criteria.

1. Comprehensive range of medical and surgical specialties;
 - 1.1. The hospital should be an acute care hospital with the following facilities:
 - 1.2. An Accident and Emergency Department with active patient service 24 hours a day.
 - 1.3. Admitting patients with a comprehensive range of medical and surgical diseases.
 - 1.4. 24-hour access to emergency consultative services including the various specialties in Medicine, Surgery and Anaesthesia.

2. Have access to a wide spectrum of investigative facilities;
 - 2.1. 24-hour access to the laboratory for arterial blood gas analysis, and cell count and biochemistry of body fluids.
 - 2.2. 24-hour blood banking facilities and imaging services (X-rays,CT Scan).
 - 2.3. Laboratory and diagnostic facilities
 - 2.4. Radiology/imaging (X-rays, CT scan, radionuclide scans, pulmonary angiogram, ultrasound).
 - 2.5. Pathology, including exfoliative cytology.
 - 2.6. Microbiology.
 - 2.7. Clinical Chemistry.
 - 2.8. Haematology.

3. The hospital must be prepared for the College, at intervals determined by the College, to carry out visits to the unit to assess its suitability for training. Information about caseload, staffing patterns and the rosters will be required.

SPECIFIC INSTITUTIONAL REQUIREMENTS:

1. The training intensive care unit should fulfil the following criteria.
 - 1.1. Have defined admission, management, discharge, and referral policies;
 - 1.2. The training appointments must be entirely in intensive care and include provision for the trainee to take part in out-of-hours unit rosters.
 - 1.3. When appointments for the senior staff are made, the advice of a properly constituted committee capable of evaluating the qualifications of the applicants must be sought.
 - 1.4. The unit director must be a specialist with a recognized qualification in intensive care and should normally be working full-time in the ICU.
 - 1.5. The supervisor of training must be a specialist with a HKCA(IC)/HKCP(CCM) fellowship and should normally be working full-time in the ICU.
 - 1.6. Supervisors of Training are nominated by the hospital and appointed by the College
 - 1.7. The hospital must agree to notify the College, through its Supervisor of Training, of any changes that might affect training. Changes such as a reduction in the workload or a reduction in the number of senior staff working in the unit are regarded as important.
 - 1.8. Intensive Care Units will be accredited for suitability for the duration of ICU training. All future posts in the unit will be considered training posts, subject to requirement 3.1 of this document.
 - 1.9. Applications for any change in the training status shall be sent to the College, but before granting approval the College may need to reinspect the unit.

2. The general intensive care unit should have the following organization and be equipped with, or have access to, the following facilities, which are compatible with the current standard of care
 - 2.1. Life support devices and systems including mechanical ventilators, mechanical circulatory support, renal replacement therapy and temporary transvenous pacing facilities.
 - 2.2. Advance haemodynamic monitoring devices, including but not limited to cardiac output monitoring and echocardiogram.
 - 2.3. Respiratory monitoring devices include but are not limited to arterial oxygen saturation, respiratory mechanics while on mechanical ventilation and end-tidal CO₂.
 - 2.4. Neurologic monitoring
 - 2.5. Facilities for the following diagnostic and therapeutic procedures.
 - 2.5.1. Plasmapheresis
 - 2.5.2. Bedside fiberoptic bronchoscopy.
 - 2.6. Parenteral nutrition
 - 2.7. Centers are also assessed for their essential ability to deliver competencies-based training in specific domains.

The period of training in a unit which is approved may be determined by:

- 2.8. Fellows accredited as trainers, to provide a minimum trainer to trainee ratio of 1:2 at any one time. To ensure efficient, timely and consistent delivery of critical care services, the trainers should be directly supervising all aspects of critical care practice, including a minimum of twice daily rounds; acute management of newly admitted patients; performance of technical procedures; initiation, maintenance, and discontinuation of life support devices and systems; critical evaluation and analysis of data obtained from monitoring devices; regular conferences with families; regular conferences with other members of the care team; emergency calls; in-service teaching; triage and bed allocation; as well as other administrative activities.
- 2.9. Adequate nursing ratios and expertise protect trainee work duties and training time. There should normally be at least 1 nurse for 1 ventilated or similarly critically ill patient. (i.e.. at least 4.2 nurses to 1 ICU bed ratio). For more complicated cases additional nursing manpower may be required. Most nursing staff (preferably more than 75%) should hold post registration qualifications in intensive care.
- 2.10. Adequate ward clerical support should be available, and the Director should have secretarial support.;
- 2.11. Training programmes for staff must be established,
- 2.12. Continuing educational activities must be established.
- 2.13. For Cat A unit caseload should exceed 750 patients/year, providing emergency trauma¹ and interventional cardiac² service. The unit must have a minimum of 3 intensive care or critical care specialist trainers.
- 2.14. For Cat B unit the caseload should exceed 300 patients/per year the minimum requirement is 2 intensive care or critical care specialist trainers.
- 2.15. An intensive care specialist must be rostered to always supervise the unit and contactable. When providing supervision, the specialist must be rostered only for intensive care duties.
- 2.16. At least one resident must be on duty solely for the unit and must be always present in the unit, except for emergency resuscitations.
- 2.17. Trainees should be supervised by an onsite intensive care/critical care specialist trainer for a minimum of 40% of working time.
- 2.18. Trainees should be rostered a minimum of 2 hours protected study time per week.
- 2.19. There should be evidence that the unit has a continuous quality improvement programme. SMR (standardized mortality ratio) should be reviewed regularly.

¹ Equivalent to American Trauma Society level II trauma Centre

Elements of Trauma Centers Include:

24-hour immediate coverage by general surgeons, as well as coverage by the specialties of orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology, and critical care.

Provides trauma prevention and continuing education programs for staff.

Incorporates a comprehensive quality assessment program.

² Emergency PCI

3. Education and Training Programme

- 3.1. There should be a programme of education for medical staff including journal clubs, and grand rounds
- 3.2. There should be a structured training programme and research activities readily available to trainees,
- 3.3. Adequate educational facilities, which include
 - 3.3.1. Access to medical library facilities and computerized search system.
 - 3.3.2. Space and equipment for educational activities.

4. Physical facilities and equipment

4.1. The Patient Care Area

- 4.1.1. The number of beds available should be appropriate to the size and function of the hospital.
- 4.1.2. The area for each bed should be sufficient to allow easy access to the patient and to allow the deployment of equipment needed to manage the patient appropriately. There should normally be 20m² per patient for the open-bed area, and 25m² per isolation room.
- 4.1.3. Services to the bed must be conveniently placed and in sufficient number to cope with the peak demand. There should normally be 16 power points, 3 oxygen, 2 air and 2 suction outlets per patient bed.
- 4.1.4. The design should consider the serious risk of cross infection. There should be easy access to hand washing from each bed station and it should be easy to isolate individual patients. Air exchange should normally be more than 12 per hour in isolation rooms and 6 per hour in other areas of the ICU.

4.2. Equipment

- 4.2.1. Equipment available in the unit must be appropriate to the work done in the unit and to the workload, judged by contemporary standards.
- 4.2.2. There must be a regular equipment safety checking system in force.
- 4.2.3. The beds must be of suitable design.

4.3. Support Areas

- 4.3.1. Adequate storage space is essential.
- 4.3.2. There should be a clear separation of clean and dirty working areas.
- 4.3.3. A ward administration area is required that must readily accommodate the staff who must work there.
- 4.3.4. Adequate office space for both the senior and the junior staff. Offices must be provided for each of the full-time senior medical staff working in the unit.
- 4.3.5. The overnight duty room should be close to the unit for trainees to stay in during call duties.
- 4.3.6. There must be a suitably quiet area for the trainees to study when they have the

opportunity.

4.3.7. The unit should have ready access to a teaching area with the appropriate facilities. An appropriate range of manuals, textbooks, journals and access to the internet and online journals should be available 24 hours a day.

4.3.8. A relatives' waiting area with adequate privacy must be available for distressed relatives.

Foot notes:

1. Elements of Trauma Centers Include:

Immediate 24-hour coverage by general surgeons, as well as coverage by the specialties of orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology, and critical care.

Provides trauma prevention and continuing education programs for staff.

Incorporates a comprehensive quality assessment program.

2. Emergency PCI