

PROPOSED RULES FOR CARDIOVASCULAR SURGICAL UNITS

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1. Every effort should be made to encourage regionalization of care in the field of open heart surgery in order to provide the best possible diagnostic, therapeutic and postoperative facilities and quality of patient care without wasteful duplication of facilities and personnel, or uneconomical under utilization of otherwise excellent centers.
2. The number of open heart surgical units in the state of New Jersey exceeds the demand. Therefore, the development of new units except at the medical schools should be discouraged until the facilities of existing centers become saturated. A population base of one million is required to justify one cardiac surgical unit. (There are presently eight such units in Bergen, Hudson, Essex, and Passaic Counties with a combined population of only 3,341,000).
3. Any hospital with cardiac catheterization facilities for patients with heart disease should also have facilities for complete therapy and pre and post operative evaluation and care. The only exceptions are in the areas of cardiac pacemakers, and coronary cardiography for coronary heart disease. Specially trained personnel should be available in these two areas so that surgery is performed according to acceptable standards.
4. Coronary angiography should be developed slowly in accordance with the demand, with the understanding of the administration and medical staff of the hospital that the operative procedures are as yet not fully accepted by the medical profession.

EQUIPMENT:

Each center should have the following equipment:

1. DIAGNOSTIC FACILITIES

- A. Cardiac Catheterization Laboratory
 - angiocardiology
 - image intensifier
 - cineangiography
 - rapid-cassette changer
 - left and right heart catheterization

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DO NOT CIRCULATE

power injector
electrocardiography
phonocardiography
vectorcardiography
pressure transducer
strain guage
shunt detection equipment
oxygen determination equipment

- B. Pulmonary Function Studies to Include Blood Gas determinations and bronchspirometry
automatic dye injector
pulmonary scans
helium equilibrium

II. ANCILLARY SERVICES

blood bank in hospital
coagulation studies

III. OPERATING ROOM EQUIPMENT

pumps oxygenators
2 pressure and ECG monitors, defibrillators,
resuscitation facilities
astrup
blood gases
thermal mattress

IV. INTENSIVE CARE UNIT OR RECOVERY ROOM

respirator, volume regulated
cardiac arrest facilities
pacemakers
defibrillators
bedside monitor
2 pressure channels
1 ECG
hemodialysis unit
thermal mattress unit
blood gases

PERSONNEL:

Each center should have the following personnel available:

- I. DIAGNOSTIC FACILITIES
Cardiac Catheterization Laboratory
The catheterization team shall consist of two
or more qualified experts and two nurses
or technicians

- II. OPERATING ROOM
3 qualified surgeons* on the staff
1 cardiologist available as part of the surgical team
1 qualified anesthesiologist
1 pump technician
3 qualified nursing personnel
 1 scrub
 2 circulating

- III. INTENSIVE CARE UNIT OR RECOVERY ROOM
Specialty qualified physician coverage**
Adequate nursing staff with two qualified
cardiac nurses per shift
1 inhalation therapist around the clock

- IV. ANCILLARY SERVICES
24 hour Laboratory
24 hour blood bank services
24 hour radiology coverage

CRITERIA FOR HEART OPERATIONS:

- I. CLOSED HEART SURGERY
Closed heart surgery should only be performed in
institutions that have a full open heart surgery
program. Therefore, the criteria for such a program
are the same.

- II. CORONARY ARTERY SURGERY
Similarly, coronary artery surgery should only be
performed by institutions fully equipped to perform
open heart surgery. Therefore, the criteria are
again the same.

*certification by board of thoracic surgeons

**residency approved in sub-specialties

III. CINEANGIOGRAPHY

Diagnostic facilities could exist outside of major open heart centers, but it is stressed that such procedures should only be performed by recognized experts in the technique as well as experts in interpretation of films.

IV. SURGERY OF GREAT VESSELS

With the possible exception of patent ductus arteriosus, surgery of the great vessels should only be done at centers prepared to do open heart surgery, where appropriate bypass procedures can be done. This would hold true for surgery of the aortic arch, and for coarctation of the aorta where from time to time bypass is required. It would also hold true for resection of the thoracic aorta.

V. PACEMAKERS

Pacemakers could be implanted by surgeons or internists, depending upon their training. The best team is a combination internist and surgeon, because implantation of the permanent pacemaker is primarily a surgical procedure, and many of the complications that follow are entirely surgical in nature. It is also stressed that satisfactory equipment be available for pacemaker surgery, particularly oscilloscopes, external pacemakers, and various threshold analyzers, and that at least one member of the team be sufficiently versed in the engineering aspects of the pacemakers to perform these procedures reliably.

VI. VASCULAR SURGERY

The definition of arterial-vascular surgery is surgery of the great arteries exclusive of the arteries in the chest. The equipment required for vascular surgery is the same as that required for cardiac surgery.

The physician performing vascular surgery should be board certified in general surgery and have special concentrated training of one or more years in vascular surgery. It is conceded that where and how to get this training is a problem since there are no residency programs in vascular surgery but that the parent institution is advised to check references carefully before accepting credentials.

In the community hospital this "sub-specialty" should be a part of the department of general surgery or thoracic surgery, not necessarily an autonomous department or a separate unit.

Arteriography is in some disrepute because its often done by inexperienced people. Standards vary throughout the country and radiologists usually need back-up while performing this technique. The ideal team for cineangiography would be a neurosurgeon, a radiologist and a vascular surgeon, but a variety of suitable arrangements can be made by the hospital depending on available personnel.