

**GUIDELINES FOR CATEGORIZATION OF SERVICES  
FOR THE CRITICALLY ILL PATIENT**

Adapted from the  
**Critical Care Operations Group**  
A Collaboration of the London Teaching Hospitals

endorsed by  
**Canadian Critical Care Society**

**These guidelines have been adapted from the Critical Care Operations Group (1997),  
*Guidelines for Categorization of Services for the Critically Ill Patient*, a collaboration of the  
London, Ontario Teaching Hospitals.**

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**Adapted:**

**Revised:**

## **Guidelines for Categorization of Services for the Critically Ill Patient**

### **Introduction**

**In May 1988, the Task Force on Guidelines of the Society of Critical Care was charged with the responsibility of developing Guidelines for Categorization of Services for the Critically Ill Patient. In order to do so, it was necessary to define the principles upon which these standards are based. In December 1995, the Critical Care Operations Group adapted these Guidelines for the purposes of the London Teaching Hospitals affiliated with the University of Western Ontario. In 1998 these guidelines were further modified to reflect the requirements of the Canadian Critical Care Society and its national members. The following represent the principles which serve as the rationale for this document:**

1. Critical Care units appropriately concentrate critically ill patients within specified areas of the hospital.
2. Within these units, there is concentrated not only the sophisticated equipment and supplies necessary to support these patients, but also the personnel with special training and expertise in the care of the critically ill.
3. Critical Care nursing represents a body of knowledge that can be taught<sup>1</sup> and on which the professional can be tested<sup>2</sup>. Patients in critical care units must be cared for by nurses with this knowledge base. Standards for the delivery of nursing care of the critically ill have already been developed.<sup>1,2</sup>
4. Critical Care medicine represents a distinct body of knowledge that can be taught<sup>3</sup> and on which the professional can be tested. The management of critically ill patients must involve the participation of physicians with this knowledge base. These physicians shall be readily available throughout the 24-hour day.
5. Critical care units must be designed by a multidisciplinary team led by a specialist in critical care medicine and should conform to certain standards.<sup>4</sup>
6. Efficient delivery of care to the critically ill patient depends upon "state-of-the-art" support services and equipment.<sup>5</sup>
7. Definition of levels of care and a system of regional categorization and triage which matches each patient to needed resources utilizing such definitions represents the most cost-effective and most logical use of limited societal resources.
8. In addition to patient care responsibilities, providers of critical care have significant administrative and quality assurance duties which must be recognized. Since critical care consumes up to 20% of the overall hospital budget<sup>6</sup>, critical care professionals should be able to assure those financing medical care that care is provided in the most cost-effective fashion while still achieving delivery of a high quality of care.

9. The practice of critical care must be organized to ensure not only quality medical care, but also ongoing educational and research activities, where appropriate. It is recognised that these additional activities will vary between hospitals, depending primarily on size and academic affiliations.
  
10. All members of the health care multidisciplinary team must participate in continuing education activities as governed by their respective Regulated Health Professions Acts.
  
11. New members of the critical care multidisciplinary team must receive appropriate orientation to unit structure, layout, standards and guidelines.

## Levels of Care

The definition of levels of care is necessary in order to ensure the most efficient regional use of resources. Each hospital should define its goals with respect to the delivery of critical care; these should be consistent with the institution's overall mission.

The proposal outlined below defines three levels of care.

Level I hospitals represent facilities that provide care to the complicated, critically ill patient who requires ongoing treatment. This level of care is dependant on the continuous availability of sophisticated equipment provided by a multidisciplinary team of health care professionals trained in the care of the critically ill. Level IC units represent this high level of clinical care, while level IA units have an additional commitment to education and research in the field of critical care medicine and affiliated personnel.

Level II hospitals usually serve large communities with some limitation of resources. While often these institutions may be able to deliver a high quality of care to critically ill patients, transfer agreements must be negotiated for complicated patients or those requiring special services available only at level I hospitals. Protocols should also be developed cooperatively between Level II units and Level I units relating to the care of the critically ill patient during the stabilization and intrahospital transport period.

Level III hospitals encompass all other critical care capabilities provided in the community setting. While able to provide stabilization and monitoring of critically ill patients, transfer agreements must be in place for transport to a more appropriate level facility when indicated. Transport protocols as described above also need to be in place. Standards described for Level III hospitals represent minimal standards for critical care units.

Cooperation between hospitals and professionals within a given region is essential to ensure that an appropriate number of Level I, II and III units are designated because "redundancy will only lead to poor utilization of resources, inability to maintain skills, and cost ineffectiveness."<sup>7</sup>

Provincial and federal governments should be encouraged to implement reimbursement schedules and methodologies which recognize the high cost of caring for the critically ill and encourage rationalization of critical care services and the development of referral and transfer agreements<sup>8 9 10</sup>.

## DEFINITION OF HOSPITAL RESOURCES

E = Essential

D = Desirable

O = Optional

		LEVEL			
		<u>I</u> A	<u>I</u> C	<u>I</u> I	<u>I</u> II
I.	<u>Medical Staff Organization</u>				
A.	A distinct medical staff critical care organizational and geographic entity (department, division, section or service) exists.	E	E	D	D
	1. Privileges (both cognitive and procedural) for members of the critical care team are approved by the medical staff credentials committee based on previous training and experience as defined by the medical staff.	E	E	E	E
	2. A section of the medical staff bylaws spells out the regulations governing the implementation of these conditions.	E	E	E	E
	3. Budgetary activities relating to unit function, quality assurance, and utilization	E	E	E	E

		LEVEL			
		<u>I</u> A	<u>I</u> C	<u>I</u> I	<u>I</u> II
	review are conducted as joint medical/nursing/administrative endeavors.				
	4. A critical care representative sits on the medical staff executive committee (Medical Advisory Committee), or any equivalent committee responsible for making decisions affecting critical care policy, resource utilization, quality of care or unit structure.	E	E	D	O
B.	The team is organized and led by a specialist in critical care medicine with time, expertise in and significant commitment to the care of the critically ill patient.	E	E	D	O
	1. The Critical Care team is responsible for the management of patients in the critical care unit with appropriate involvement from other services.	E	E	D	O
	Note: An adequate number of Critical Care Specialists are required to ensure that all aspects of the role can be appropriately fulfilled: clinical, education, research and administrative.				
C.	Each patient's management is directed by an attending-level physician who:				
	1. is privileged by the medical staff to have case management responsibility for critically ill patients.	E	E	E	E
	2. is Royal College trained in Critical Care Medicine or has equivalent qualifications.	E	E	O	O
	3. Reviews the patient as often as required by acuity but at least twice daily.	E	E	E	O

		LEVEL			
		<u>I</u> A	<u>I</u> C	<u>I</u> I	<u>I</u> II
II.	<u>Unit Organization</u>				
A.	Unit staff have access to Bioethics Committee.	E	E	D	O
B.	The Physician Director/Coordinator is:				
	1. a physician who, on the basis of training, interests, type of practice and time availability can give clinical, administrative and educational direction to the ICU.	E	E	E	D
	2. a physician who is Royal College certified in his/her speciality.	E	E	E	E
	3. certified in critical care medicine or has equivalent qualifications in compliance with the medical staff credentialing process.	E	E	D	O
	4. regularly involved in the care of patients in the unit.	E	E	D	D
	5. overseeing the administrative aspects of unit management, including formation of policies and procedures, enforcement of unit policies and the education of unit staff.	E	E	D	D
	6. responsible for assuring the quality, safety, and appropriateness of care in the ICU.	E	E	D	D
	7. available (or provides an <u>equally qualified</u> alternate) to the unit 24 hours a day, 7 days a week for both clinical and administrative matters.	E	E	E	E
	8. knowledgeable about the development of critical care and participates in national and local societies.	E	E	D	O
	9. a participant in continuing education programs in the field of critical care medicine.	E	E	D	O
	10. an advisor and participant in the development of and cooperates with the organization of the care of the critically ill	E	E	D	D

		LEVEL			
		<u>I</u> A	<u>I</u> C	<u>I</u> I	<u>I</u> II
	patient in the community as a whole.				
	11. a participant in the education of unit staff, other physicians, house staff and medical staff as indicated.	E	E	D	O
	12. a participant in scholarly activity (case reports, clinical and/or basic research.)	E	D	O	O
	13. an advisor and participant in the review of the appropriate utilization of ICU resources in the hospital.	E	E	D	O
	14. ensures that the unit has a Bioethics Committee as an available resource.	E	E	D	O
C.	A leader/manager is appointed in order to establish clear lines of authority and responsibility for delivery of quality, for safety and appropriateness of patient care as provided by the multidisciplinary team.	E	E	E	D
	The Leader/Manager:				
	1. has a minimum of baccalaureate degree, masters preferred	E	E	D	D
	2. has additional leadership training	E	E	D	D
	3. is prepared to participate in the education of				
	- unit staff	E	E	E	D
	- house staff	E	D	D	O
	4. is prepared to support with scholarly activity (e.g., presentations, clinical research)	E	D	O	O
D.	Quality Improvement				
	1. Unit follows appropriate accreditation standards	E	E	E	E

### III. Physician Availability

#### 24-hour in-house coverage:

		LEVEL			
		<u>I</u> A	<u>I</u> C	<u>I</u> I	<u>I</u> II
A.	Critical Care Physician fully dedicated to the critical care unit to provide titrated medical care.*	E	E	D	O
B.	On call and available within 30 minutes				
	1. Anesthesiologist	E	E	E	E
	2. Cardiologist	E	E	D	D
	3. Cardiovascular Surgeon	F	O	O	O
	4. Gastroenterologist	E	O	D	O
	5. General Internist	E	E	E	E
	6. General Surgeon	E	E	E	E
	7. Hematologist	E	E	D	O
	8. Infectious Disease Internist	E	E	D	O
	9. Invasive Radiologist	E	E	O	O
	10. Nephrologist	E	E	D	O
	11. Neurologist	E	E	D	O
	12. Neuroradiologist	D	D	O	O
	13. Neurosurgeon	E	D	O	O
	14. Obstetric - Gynecologic Surgeon	E	E	D	O
	15. Orthopedic Surgeon	E	E	D	O
	16. Pathologist	E	E	D	O
	17. Radiologist	E	E	E	D
	18. Respiriologists	E	E	D	O
	19. Thoracic Surgeon	E	D	O	O
	20. Urologic Surgeon	E	E	O	O
	21. Vascular Surgeon	E	E	O	O

\* This requirement may be fulfilled by a delegate with skills appropriate to the Critical Care Unit (i.e., physician in training, contracted physician). When residents are used to fulfill this responsibility, an

LEVEL

I      IC      II      III

attending physician with appropriate training must be on call and available to the Critical Care Unit within 15 minutes of notification.

**IV. Nursing Availability**

A.	Nursing ratio based on acuity	E	E	E	E
	minimum 1 RN:2 patients with ability to increase to 1:1 or 2:1 if acuity demands.	E	E	O	O
B.	Completion of critical care program and a minimum two years nursing experience .	E	E	D	D
C.	Certification in Critical Care with the Canadian Nurses Association.	D	D	D	D
D.	Member of the Canadian Association Critical Care Nurses.	D	D	D	D

**V. Respiratory Therapy**

A.	A respiratory therapist is available to the unit at all times.	E	E	E	D
	RRT ratio based on acuity and intervention 1 RRT:5 ventilated patients	D	D	D	D
B.	A respiratory therapist is fully dedicated to the ICU.	E	E	D	O

**VI. Services Provided in Unit**

An ICU has the capability of:

1. basic monitoring and
2. patient support.

In order to do so, an ICU is prepared to provide:

1. A.	Continuous monitoring of EKG (with high/low alarms) to all patients	E	E	E	E
B.	Continuous arterial monitoring (invasive and	E	E	E	D

	LEVEL			
	<u>I</u> A	<u>I</u> C	<u>I</u> I	<u>I</u> II
non-invasive)				
C. Central venous pressure monitoring	E	E	E	D
D. Equipment to maintain the airway, including laryngoscope, endotracheal tubes	E	E	E	E
E. Equipment to ventilate, including resuscitation bags, ventilators, oxygen, and compressed air	E	E	E	E
F. Emergency resuscitative equipment	E	E	E	E
G. Equipment to support hemodynamics, including infusion pumps, blood warmer, pressure bags, blood filters	E	E	E	E
H. Transport monitor	E	E	E	D
I. Suction	E	E	E	E
J. Hypo-hyperthermia blanket	E	E	E	D
K. Scale	E	E	D	D
L. Temporary pacemaker	E	E	E	D
M. Temperature monitoring device	E	E	E	E
N. Pulmonary artery pressure monitoring	E	E	D	D
O. Cardiac output monitoring	E	E	D	O
P. Continuous inspired O <sub>2</sub> monitoring capability for all ventilators	E	E	E	E
Q. Hemodialysis	E	E	O	O
R. Peritoneal dialysis	E	E	D	O
S. Capnography	E	D	D	O
T. Pulse oximetry	E	E	E	E
U. EEG monitoring	E	D	O	O
V. Invasive Radiology	E	E	O	O
W. nitric oxide therapy*	E	D	O	O

		<u>LEVEL</u>			
		<u>I</u> <u>A</u>	<u>I</u> <u>C</u>	<u>I</u> <u>I</u>	<u>I</u> <u>II</u>
X.	endoscopy (fiberoptic and rigid bronchoscopy)*	E	E	O	O
Y.	continuous inhalation therapies (including appropriate monitoring protocol)	E	E	D	O
Z.	Fluoroscopy capability in unit or readily available in radiology	E	E	D	O
AA.	Access to CT scanner, cardiac catheterization lab, nuclear medicine testing*	E	E	D	O
BB.	Intracranial pressure monitoring	E	D	O	O
CC.	Extracorporeal membrane oxygen**	E	D	O	O
DD.	Left heart assist devices**	E	D	O	O
EE.	Hyperbaric chamber**	E	D	O	O
FF.	Computerized data management systems	E	E	O	O
GG.	Intra-aortic balloon assist device**	E	D	O	O
HH.	Magnetic Resonance Imaging**	E	E	O	O
2. A.	Beds with removable headboard and adjustable position	E	E	E	E
B.	Adequate lighting for bedside procedures	E	E	E	E

\* If not available in-house, transfer agreements exist with institutions which have this capability.

\*\* If not, have transfer protocols.

## VII. Support Services

24 hour availability:

A.	Clinical laboratory services				
1.	Standard analysis of blood, urine body fluids	E	E	E	E
2.	Blood typing and cross matching	E	E	E	E
3.	Coagulation studies	E	E	E	E
4.	Blood banking services	E	E	E	E

		<u>LEVEL</u>			
		<u>I</u>	<u>C</u>	<u>II</u>	<u>III</u>
	5. Blood gas determination	E	E	E	E
	6. Determination of Na, K, C1, Co <sub>2</sub> , blood sugar, BUN, creatinine	E	E	E	E
	7. Microbiology	E	E	E	D
	8. Toxicology and alcohol screens	E	E	D	D
B.	Portable x-ray	E	E	E	E
C.	Pharmacy	E	E	E	E
D.	Housekeeping	E	E	E	E
E.	Central supply or equivalent	E	E	E	E
F.	Biomedical technician	E	E	E	D
G.	12-lead EKG recording	E	E	E	E
H.	Unit/communication clerk or equivalent	E	E	E	D
During Routine Working Day:					
I.	Clinical Nutrition	E	E	D	D
J.	Physical/occupational therapy	E	E	E	D
K.	Psychiatrist/Psychologist	E	E	D	O
L.	Pastoral Care	E	E	E	D
M.	Social Workers	F	F	F	D
N.	Non-Invasive cardiac investigation lab (echocardiogram/holter monitoring)	E	E	D	O
O.	Clinical Pharmacist	E	E	D	D
P.	Attendants for non patient care	E	E	O	O

### VIII. Transport Policies

- A. Interhospital transport is a responsibility shared by Level I and II units.

	LEVEL			
	<u>I</u> A	<u>I</u> C	<u>I</u> I	<u>I</u> II
1. Transfer agreements are in place and specify which patients shall be transferred between levels.	E	E	E	D
2. A transport team qualified in life support techniques exists and is available continuously.	E	E	E	D
B. A policy for intrahospital transport exists specifying who accompanies a patient being transported within the hospital and what monitoring/equipment is constantly available.	E	E	E	E

IX. Education in Critical Care

A. Continuing education activities in critical care provided by hospital for:				
1. Interdisciplinary team - may include community physicians	E	E	D	O
B. Formal training programs in:				
1. General surgery	E	D	O	O
2. Internal medicine	E	D	O	O
3. Anesthesia	E	D	O	O
4. Nursing	E	E	E	D
5. Respiratory therapy	E	E	D	D

X. Critical Care Research Program

A. Conducting research	E	E	D	D
B. Utilizing research	E	E	E	E

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